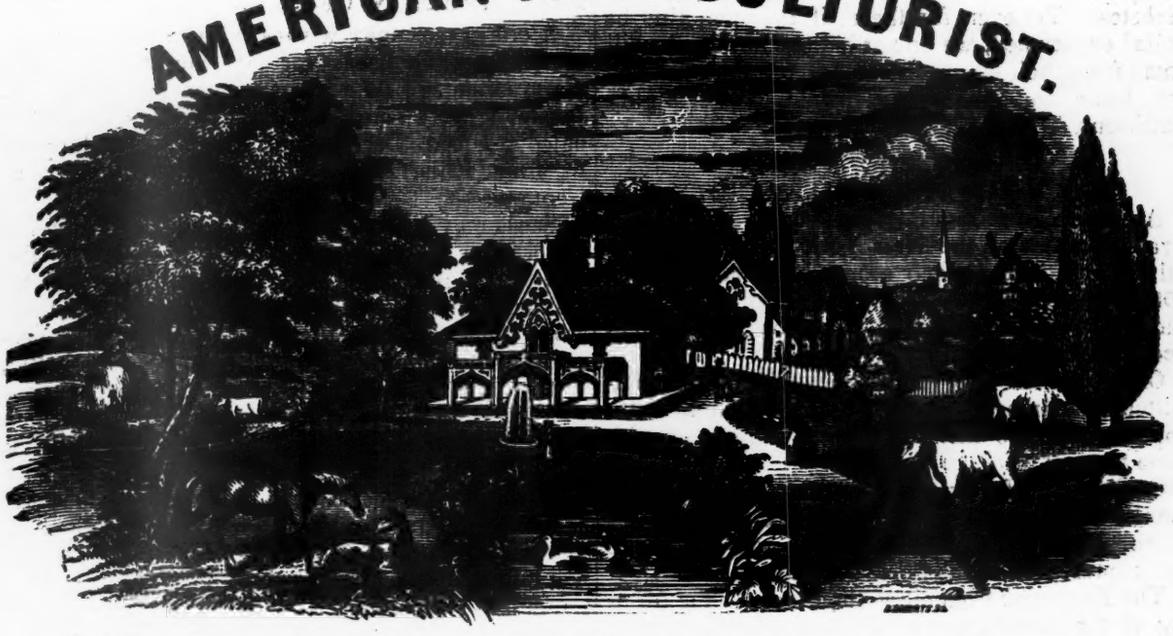
AMERICAN AGRICULTURIST.



Agriculture is the most healthful, the most useful, and the most noble employment of man.—WASHINGTON.

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A. B. ALLEN, Editor. HARPER & BROTHERS, Publishers.

THE NEW VIGNETTE.

WE promised our subscribers a new vignette for this volume, but are prevented giving it in the first number, by an unfortunate accident. It was engraved on the 23d of last month, and sorry are we to add, that just as it was put in the form for use, it split through the centre, owing to a defect of the block, which so materially injured it as to render it unfit for use. We could not wait for a new block to be cut, as this would require nearly a week; and thus we are compelled to go to press without the promised vignette. The engraver has set to work again on a new one, and we hope to present it in the February number, without fail. The design is rural, chaste, and pretty, and such as no doubt will give general satisfaction.

COLD WATER FOR STOCK.

FARMERS, are you aware that very cold water in the winter, as well as summer, is injurious to your stock? If not, we can assure you that such is the fact. It often causes disease, especially of the bowels; and under no circumstances will cattle drink so much of it as is absolutely necessary for their thrift.

Water, if possible, should be obtained from a spring, and be drunk as it bubbles out, at a moderate temperature, or be pumped up fresh from a well, or be taken from holes cut through the ice of a deep stream or clear pond. The water of a swift running stream, where more or less of its surface is exposed to the frosty atmosphere, is usually quite too cold for healthy drink. That also taken from standing troughs or shallow pools, with the ice broken up in it, is equally injurious. It is better to have the water brought from a spring, into the yard or stable, and when wanted, turn it into a trough easily accessible for the stock. When they have drunk sufficiently, stop the running of the water and draw the troughs dry, then no ice is made to chill the water excessively, to the injury of the animals drinking it.

PUMPKINS AND APPLES FOR SWINE.

THE English editor of Boussingault's Rural Economy, asserts, that Americans say, "a hog will die upon pumpkins and apples alone, but he will live and fatten on a mixture of the two." This is the only place we ever met with the above observation; yet so far as our experience extends, we know it to be incorrect. We have kept swine of various ages for weeks, exclusively on pumpkins, and never knew them to do better; and that they will not only live and thrive on apples, alone, is notorious the country over.

We once shut up a lot of Berkshires of various ages, in a tight pen, with a plank floor, and commenced feeding them on raw pumpkins. As our neighbors dropped in from time to time they would look at the grunters, shake their heads and declare if we did not take the seeds of the pumpkins away, they would cause the swine to stale so exceedingly, as to make them skeleton poor in three weeks. We had great faith in our breed, and so let them continue to eat the seeds and all for upwards of six weeks. During this time they had nothing else that we recollect but water, of which they drank very sparingly. They throve finely during this time, nor did they stale much more than common. Indeed, so well were we satisfied with their condition at the end of this period, that we should have continued them on the same food as much longer, had not the pumpkins been all consumed.

With a poor breed of hogs we have no doubt but

pumpkin seeds may be the immediate cause of diabetes. Yet even for these, if the pumpkins be boiled or steamed, we do not believe any harm will come from their eating the seeds; on the contrary, we have no doubt they would prove highly nutritious.

NEW YORK STATE AG. SOCIETY.

At the regular monthly meeting of the Executive Committee of the New York State Agricultural Society, held at their rooms in Albany, on the 10th of December, the following resolutions were adopted:—Present—Messrs. Sherwood, Vail, Prentice, Tucker, and McIntyre.

On motion of Mr. Vail, *Resolved*, That the committee on loaning the surplus funds of the Society, appointed at the last meeting, be continued with same powers.

On motion of Mr. Tucker, *Resolved*, That the thanks of the Society be presented to Lewis F. Allen, Esq., for a copy of his American Herd Book, presented to the Society.

The Executive Committee then took up the forming of the several committees, on awards, for the next annual meeting of the Society, in January next. The following gentlemen were appointed:—

On Farms.—J. P. Beekman, Columbia; Anthony Van Bergen, Green; Mr. Fuller, Onondaga.

Experiments and Essays.—A. B. Allen, New York; E. Emmons, Albany; Sandford Howard, Albany.

Designs for Farm Buildings—Geo. Geddes, Onondaga; Jno. McD. McIntyre, Albany; E. Mack, Tompkins.

Cheese Dairy.—Benjamin P. Johnson, Oneida; Thomas Hillhouse, Albany; Ira Hopkins, Cayuga.

Butter Dairy.—Zadoc Pratt, Greene; Robert Dennison, Orange; E. W. Bateman, Cayuga.

Selection of Fruits.—L. F. Allen, Erie; A. H. Stevens, New York; A. Thompson, Tompkins; J. C. Platt, Clinton; J. Jackson, Schenectady.

Wheat, Barley, Rye, and Oats.—Daniel Lee, Monroe; Squire M. Brown, Onondaga; John Wilkinson, Dutchess.

Indian Corn, Corn Fodder, and Peas.—A. Fitch, Washington; Benj. Enos. Madison; C. S. Button, Wayne.

Root Crops.—C. N. Bement, Albany; John C. Mather, Rensselaer; S. B. Burchard, Madison.

Hops, Flax, and Broom Corn.—Samuel Cheever, Saratoga; John Rankin, Ontario; Justus Harwood, Albany.

Tobacco, Cabbage, Clover, and Grass Seed.—C. Marks, Onondaga; G. T. Hacket, Seneca; John Walsh, Albany.

On motion of the President, Mr. Sherwood, *Resolved*, That Messrs. Prentice, Tucker, and McIntyre be a committee to make arrangements for the annual meeting of the Society, in January next.

The next annual meeting of the State Agricultural Society will be held in the city of Albany, on Wednesday and Thursday, the 20th and 21st of January, 1847, commencing at 10 o'clock, A. M. Farmers and the public generally are invited to attend. An extra meeting of the Executive Committee will be held on Tuesday, the 19th of January, at 10 o'clock, A. M.

PRESERVATION OF SEEDS FOR SHIPPING.

A correspondent wishes to know the best mode of packing up seeds for transportation through warm climates. We know of none better than the following, recommended by Dr. Linnæus, in a letter dated at Upsal, December 8th, 1758, and addressed to John Ellis, then Governor of the colony of Georgia:—

Seeds may be brought from abroad in a growing state, if we attend to the following method:—Put your seeds into a cylindrical glass bottle, and fill up the interstices with dry sand, to prevent them from lying close together, and that they may perspire freely through the sand; then cork the bottle, or tie a bladder over the mouth of it. Prepare another glass vessel so much larger than that which contains the seeds, that, when it is suspended in it, there may be a vacant space on all sides, of about two inches distance, between both glasses, for the following mixture:—Four parts of nitre (saltpetre), and one-fifth of one part of equal parts of common salt and sal ammoniac (muriate, or hydrochlorate of ammonia); these must be well pounded, and mixed together, and the spaces all round, between the outward and inward glasses, well filled with it. This saline mass, which should be rather moist, will always be so cold, that the seeds in the minor glass will never suffer during their voyage, from the heat of the air. This experiment has been tried, and has not failed.

Seeds may also be preserved, during the voyage, by immersing them in equal parts of melted beeswax and mutton tallow, or in melted beeswax alone, at as low a temperature as these substances can be reduced without congealing, and keep them in the coolest part of the ship to prevent the wax or tallow from melting.

An Excellent and Cheap Pudding.—One pint of rice; twelve apples of good size, and sour; pare, core, and slice them; mix the rice and sliced apples, and put all into a bag and boil for half an hour. The bag must be large enough to allow the rice to swell, and yet no larger than the rice, when swelled, will fill. Eat with any sauce that suits the taste; butter and sugar are excellent.

To Remove Dust or Motes from the Eye.—Farmers, as well as many other persons, are often so exposed in their labors as to get dust or motes in their eyes, and frequently suffer considerably before they can find any means of relief. The following simple remedy is almost always near at hand, and in most cases will prove effectual:—Fill a cup or goblet with clear cold water, quite to the brim, and place the eye in distress in such a position as to be completely within the water in the cup; then rapidly open and shut the eye a few times, and the dust or mote will be immediately washed away. If a cup or other vessel be not at hand, the eye may be placed in a spring or bucket of water.

To Strengthen Cider or Vinegar.—Suffer them to be repeatedly frozen, and separate the ice from the liquid as long as it will freeze.

THE HORSE.—No. 1.

ALTHOUGH various articles have appeared from time to time in our preceding volumes, on the subject of the horse, we still feel as if we had not paid that attention to this noble animal to which his intrinsic merits and invaluable services entitle him. We now propose, in a series of articles, to discuss him; his history in America; the various races here; the sources whence derived; the modifications, changes, improvements, and deteriorations arising from our climate, mode of breeding, feeding, tastes and necessities; the anatomy of both the bones and the muscles; the modes of breeding now in use, both good and bad, with the true principles of breeding, as shown by the practice of skilful breeders, and recognized by the most eminent authorities on the horse; and finally, the proper method of rearing, breaking, gait-making, matching, and preparing for market.

We are constantly entrusted with orders to purchase horses, as well for use here, as for shipment to distant portions of the country, and particularly the South. In the execution of these orders, we are necessarily asked many questions regarding horses, and their various qualities. Many inquiries now constantly made of us will be anticipated, and our correspondents saved much needless trouble, by having the means to order understandingly; and when their orders are properly executed, to receive and appreciate the animals sent them. This, of itself, would be a sufficient reason for discussing, in our pages, what we have above proposed. But we have still a stronger inducement; the endless impositions practised in the sale of horses, not only as to value and soundness, but as to the various kinds, need exposure. Almost every man fancies himself a capital judge of the horse, in every respect, except his soundness; and he is so, if his *own tastes* and *peculiarities* are the *standard* for determination. But the tastes of the mass of those who own or use horses are far from being a standard of excellence, and hence, when horses are purchased under the direction of such judgments as are formed by the mass, disappointment, in most cases, is the result. Upon this defective taste and bad judgment, knavery practises; and the frauds effected, and the money expended and wasted, are incredible. Would those who purchase horses without the requisite knowledge, trust themselves to an honest dealer to furnish them, or employ some reliable person having the necessary qualifications to purchase, these impositions, in the main, would be avoided. The honest dealer must be paid for his honesty (as indeed integrity must be in every pursuit), and in case he has unfortunately sold a horse which proves less than represented, he will ever be ready to receive him back, or make amends by a rebate in price. Any person, however honest, is liable at times to sell an unsound horse; disease may be in the system, and the horse be unsound, and yet it will not develope itself at the moment, and still, within a day, it may develope, and the horse is diminished in value, or worthless, or soon dead. In such a case, an honest dealer will repay a part or the whole of the price.

Gentlemen at a distance, and particularly at the South, frequently order horses through their commercial correspondents here. The orders are entrusted to dealers, and it is impossible that the merchant here can do otherwise. He who buys and sells cotton, sugar, &c., well, will not often buy horses well, and few cotton factors will trust themselves to do so. They do the best that lies in their power; but they have a poor assurance that their orders will be executed well, and with integrity. In such cases, a competent person of integrity, with no motive but a commission, should be selected to view the horses before they are purchased, if he be not employed to make the purchase. An honest veterinary surgeon would be a proper person for such a purpose. A merchant putting himself in the hands of a dealer will, in most cases, be cheated. We every week see instances of this. Horses with unsound fore feet, if even the disease be so slight as to be not perceptible before shipment, will badly stand a sea voyage. Few horses lie down at sea. A diseased fore foot is soon overtaxed, and the weight of the carcase is thrown upon the hind quarters, and the loins are strained excessively. In such a case violent inflammation of the kidneys is almost inevitable. If the hind leg be diseased, the fore foot always is overworked, and often severe founders arise; and fevers always will set in, which will be followed by contraction of the hoof, rendering the horse unsound, and finally worthless. A horse diseased in the lungs (the worst of all diseases) may, by a few cordial balls and doses of medicine, appear sound when he goes on shipboard; if he sails but slightly diseased, he will land at his port of destination ruined; and if he be much diseased, he will not survive the voyage.

Horses are frequently shipped from the North on Southern orders, in an unsound condition, and, with the least stress of weather, die. The loss is imputed to the sea. Had the horses been sound when shipped, they would have survived, and done good service. Many unsound ones, when landed at their port of destination, are deemed to have been ruined by the voyage, when in truth they were shipped in a diseased condition. Sound horses are like sound men; they endure well; and a voyage, unless one of great length, and in weather of great violence, has but little effect on them. Instances of the loss at sea of diseased horses we have known, and the voyage received the blame which belonged to the dealer or agent who shipped, while escaping censure and receiving a rich reward, all the richer by his fraud. For his worthless, unsound horse, he received the price of a sound one, and the sea hid the proof of his iniquity; and had the horse escaped the sea, his condition would have been ascribed to it.

There is still another method of fraud. A gentleman wishes a particular kind of horse, or from a particular region. He knows only the name of the kind of horse he wishes, but does not know the proper horse to answer to that name; or he knows the region from whence he desires to derive a horse, but he has no means of knowing if indeed he came from thence. He may desire a Morgan horse, or a Messenger, and your rascally dealer or dishonest agent always can furnish him; he may desire a horse from the North, and the same dealer and agent will fill the order with a gouty, corn-fed, Western brute.

Now, why is it that these impositions are and can be practised? It is because of the ignorance of purchasers, and the pretensions and dishonesty of knaves. The object in this series is to show what a horse should be in the general; what he is in his particular varieties; what those varieties are, and their purposes; and thus enable our readers to judge of the means, not only of producing the right sort of horses, but of purchasing them understandingly. For this purpose we bring to bear not only our own experience, but also the matured judgment of others, whom we know to possess a knowledge unsurpassed on this subject.

We shall, in our next, take up the bony and muscular anatomy of the horse, illustrated, pointing out what constitutes a good horse, and why; and shall follow on with the history of the American varieties, illustrating each with an appropriate cut. If we execute our task as well as we hope to do, we shall render a great service to breeders and purchasers.

AMERICAN AGRICULTURAL ASSOCIATION.

The regular meetings of this association have been held, as usual, at the Rooms of the Historical Society, and are to be continued on the first and third Wednesday evenings of each month.

A New Theory in the Growth of Plants.—Dr. A. H. Stevens read a paper on evaporation and capillary attraction, as connected with the growth of plants. He stated that the effect was not to leach the soil, and carry down its valuable materials beyond the reach of the roots of plants, because when the surface of the soil becomes more or less dry by evaporation, the water thus charged with fertile matters was drawn up again. A brick wall, by capillary attraction, will raise water to a height of twenty feet, if its base rest upon the ground. On the borders of a salt marsh, on his grounds at Astoria, along a road not overflowed with water, he said there are seen during a drought incrustations of salt upon the surface.

He contended that, in very dry weather, the water is attracted from a considerable depth, thus preventing the loss of valuable materials, which otherwise would be lost in the earth by the infiltration of rains, &c. The rapid growth of plants after a rain succeeding to a long drought, he attributed in part, to the concentration of fertilizing matters in the surface soil consequent to its previous desiccation.

Artificial watering of plants during a drought he thought often to be injurious, and never comparable in efficacy to natural rain. He explained this fact in saying, that by capillary attraction, the fertilizing materials around the plant dissolved by the water, artificially applied, were taken away by the dry soil adjacent.

He also explained, by the same laws, the arrangement of the radicles of potted plants on the bottoms and sides of the pots, as well as the advantages of small and frequently changed pots, and the sticking of cuttings close to the sides of the pots, rather than in the centre, and concluded his interesting paper by expatiating upon the beautiful provision by which plants incapable of moving, for the purpose of seeking their food, have it brought to them by the alternate movement of fertile liquids, passing downward during a rain, then upward by capillary attraction, and evaporating from the surface, and at all times, by the suction of its radicles and capillary attraction, to replace the moisture so abstracted.

Improvement of Long Island Lands.—A resolution was passed, offering a premium of $100, to be awarded to the person who shall produce the best essay on the means of cultivating profitably the plains of Hempstead, Long Island; the essay to be both scientific and practical, and to be presented to the Society on the first Monday of October, 1848.

The Distinguished Blood Horse, Hornblower, has been purchased in New Jersey, and sent to Genesee county, in this State, as a stallion. He is a fine brown, with little or no white marks, sixteen hands high, and possesses great style and substance. He is a first class carriage horse. He has *three* crosses of imported Messenger. He was bred by Mr. Van Mater, of New Jersey, and was got by Monmouth Eclipse, his dam, by imported Expedition, out of Zelipha, by imported Messenger, &c. Monmouth Eclipse was got by American Eclipse, out of Honesty, by imp. Expedition, grandam Zelipha, by Messenger. American Eclipse's dam was by Messenger. Every horse and mare in Hornblower's pedigree has been a racer, and they have got and produced racers; and not racers only, but the very best of road horses. Hornblower possesses in an eminent degree the style, size, bone, and substance, united with an admirable color, to get the finest of road stock for the New York market. We congratulate the breeders of Genesee Co. and its vicinity, on the acquisition of this fine horse, and commend him to them. We shall look for his get to be for sale here in a few years, and we are confident none better will be offered.

Cream that has been suffered to stand until rancid, or slightly mouldy, which is often the case, should never be churned; it may make very palatable cream cheese, but abominably bad butter. Cream never rises from the milk after thirty-six hours' standing. This may be proved by the lactometer. It becomes more solid, and thus appears thicker, but nothing is gained in quantity, and much lost in quality, by suffering it to stand too long before skimming.

How to Make Indian Gruel.—Take 1 quart of boiling water and stir in 2 or 3 tablespoonfuls of finely-sifted Indian meal, previously mixed with a little cold water. Add salt to your liking, and let the mixture boil for fifteen or twenty minutes. A small quantity of pulverized crackers, a few raisins, or a little sugar added, will render it more palatable to the sick.

A Fine Blue-wash for Walls.—To two gallons of white-wash, add one pound of blue vitriol dissolved in hot water, and one pound of flour well mixed.

Isinglass and gin, dissolved together by slow heat, makes a good cement for glass.

DEFECTIVE STABLES.

One of the greatest defects still existing throughout the country, in the farmer's stables, is the want of tight floors, and a channel in them for the purpose of carrying off the urine of the stock into tanks for its preservation, to be applied at a future day to the grass and clover crops. We advise all who have not their stables thus formed, to remedy the defect as soon as possible; and those who cannot immediately do this, should litter their stock well. The litter will absorb and preserve nearly all the urine, especially if it be whitened every day with a sprinkling of plaster of Paris. If plaster cannot be had, charcoal dust is next best, then peat, tan bark, or indeed most any dry absorbing vegetable substance.

The average stale of a cow is from 900 to 1,200 gallons a year, according to size; that of the horse 1,100 to 1,400. Pound for pound, this liquid is much more valuable than solid manure.

The Chinese and Flemings save and apply all animal liquids with the utmost care. They would as soon let their silver coins be lost as this precious fluid; and they are the best farmers in the world. The Germans, French, and English, are now rapidly following in their footsteps. Millions of dollars' worth of manure are annually thrown away, or suffered to waste throughout the United States. When shall we become as economical in saving, and as enlightened in applying these enriching substances as our transatlantic brethren?

ROCK SALT.

All who keep domestic animals, are aware of the necessity of supplying them regularly with salt. Various means have been tried to effect this desirable object; but so long as the ordinary kinds are used, it cannot be done without considerable extra trouble, attended with more or less waste. We have tried all sorts of ways on our farm—the manger, troughs, both under and without cover, together with some few patent inventions, and yet we could never contrive to place this necessary condiment where it could at all times be accessible to stock, till we procured the English rock or mineral salt.

This salt is as hard as alum. A lump of it may be placed in the field, where it will lie for years exposed to all sorts of weather, with but little waste. It is therefore just the thing for horses, cattle, and sheep. Place a lump in the rack or manger, in a trough, or in a field, and there it will remain till it is gradually licked away. By using this kind of salt, the stock will always take it as they desire; nor can they get it in excess, or suffer injury from it as is often the case with the use of most other kinds. We have recently had a small quantity of this article sent us from England, and in answer to numerous inquiries, add, that we can supply it at one dollar per 100 lbs.

The Corn Crop in the South West.—Our correspondent at Washington, Miss., says, under date of Oct. 29th, that corn has been a fair crop above Baton Rouge. It was supposed to be very heavy until we commenced gathering, when both shucks and cobs, proved to be unusually large, owing, it is supposed, to the wetness of the season. The demand for export, and for the lower parishes of Louisiana, together with the lowness of the rivers, have caused a rise from 70 to 75 cts. per bushel. It will run much higher should the rivers freeze up without a rise. A great deal of corn has been sent from this part of the country, and brings a notch above the highest market price.

Color from St. John's Wort.—The flowers and tops of this plant contain a juice soluble in water, spirits of wine, or vinegar. With the first two liquids it forms a red color, resembling blood, and the latter a splendid crimson; when alum and a portion of potash are added to a strong solution of juice in water, it becomes a permanent yellow dye for cloth, cotton, paper, &c.

NEW YORK FARMERS' CLUB.

Since the Fair of the American Institute, the meetings of this Club have been resumed, and, as usual, will be continued on the first and third Tuesdays of each month. The subjects for discussion or investigation are various, and are listened to with increased interest.

Supposed Influence of the Gases of Brick-kilns on Vegetation.—Dr. R. T. Underhill stated that, seven years ago, he began to notice the evil effects of the gases emanating from burning brick-kilns on neighboring vegetation, and that they had since caused hundreds of thousands of dollars damage to agriculturists, which was particularly manifest in numerous fields and orchards between New York and Albany, in being severely injured or destroyed. He exhibited specimens of leaves of fruit and forest-trees as well as of garden vegetables, which he conceived had been killed by the gases of a brick-kiln about half a mile from his farm. On one occasion, when his men were at work in the field, there was a gentle breeze accompanied with a fog, coming from the direction of the kiln, and causing a strong smell of carbonic acid and of carburetted hydrogen, which could be perceived all over his vineyard. The next day he found the leaves of his vines greatly injured, and those on his Newtown pippin trees partly killed. He said that he had noticed that this occurred on the leaves that contained moisture, but when the gases passed over his farm, unattended with dew, fog, or rain, there appeared to be no damage done. In June last, the crop of apples in his orchard was very promising, but when they had acquired the size of marbles, the kiln commenced burning, and by means of its gases accompanied by a fog, the whole crop of fruit was cut off. He said that forest-trees and crops of grain, carrots, sugar-beets, &c., had been much damaged by the same cause; and that if fruit-trees should happen to be in blossom when these gases were in the air, the destruction of fruit would occur at the distance of fifteen miles, in the direction of the wind! During the burning of these kilns, vast volumes of gas escape for many hours together, killing orchards at the distance of ten miles! Near

Haverstraw, on the Hudson, it injuriously affects all vegetation—orchards are killed for three miles! The Newtown pippins are rendered rusty, gnarled, and covered with rough dark spots. The fuel employed in burning the bricks he said was wood, followed by fine mineral coal. (*a*)

Professor Mapes said that he had listened to the ingenious observations of Dr. Underhill, and would endeavor to give the *rationale* of the case. By application of adequate heat, alum is formed by means of the alumina and potash in the bricks, and the sulphuric acid from the coal. The alum, thus formed, rises by mechanical action in the ascending currents of heated gases or air, in infinitesimal atoms, which, in being deposited upon the neighboring plants and trees, moistened by dew, fog, or rain, would, when dissolved, directly damage their leaves.

Dorking Fowls.—Dr. H. A. Field exhibited a very convenient wicker cage, made by the paupers of Blackwell's Island, containing several fine fowls of the genuine Dorking breed. He said that he hought these fowls deserving the attention of the Club, and he had accordingly brought them for examination. The breed, he said, was first introduced into this country by Mr. A. B. Allen, who spared no pains in procuring them when he was in England, in 1841. Since that period, he said, that there had been two other importations of pure breed, by Captain Morgan, who procured them of a clergyman of Dorking, at a guinea each, exclusive of other expenses. The first of these importations, continued Dr. F., was taken by Mr. L. F. Allen, of Black Rock, N. Y., from whom the fowls in his possession were obtained. This breed, in an unmixed state, he remarked, is generally distinguished in having five toes to each foot, from which circumstance some persons have been induced to pass off other fowls that are occasionally to be found with five toes, as Dorkings. This forgery, he said, has caused the genuine breed to fall into disrepute. (*b*) The true Dorking, has a remarkably full, square breast, with short legs and neck, the former of which, he said, are always of a delicate flesh-color, or white. The chickens, when about six weeks old, are deemed as a luxury equal to the best game birds. The flesh and skin of these fowls in an adult state, are also white, and delicate in their flavor, by reason of which they are universally preferred by the English nobility.

The remarks of Dr. Field were confirmed by Messrs. Havens and Watson, who had been in England, and had had opportunities to test the qualities of these fowls.

(*a*) The observations of Dr. Underhill, as given above, we must confess, appear to be very extraordinary, and are at variance with facts so far as our own knowledge extends. We have no doubt of the truth, that vegetation growing in the immediate vicinity of burning kilns, existing, under some circumstances, will be injured; but when fruits, plants, and trees, show signs of death or decay, at the distance of miles, we think that it must be attributed to some other cause. For the benefit of our readers, however, we insert the following letter from Dr. Jackson, whose authority is undoubted, and who, in due time, we hope will further enlighten us on the subject.

Boston, December 7th, 1846.

It is well ascertained that sulphurous acid gas driven off from pyrotiferous clays by roasting, is injurious to vegetation, and if the clay used in the brick-yards contains either sulphurets or sulphates, the action of heat and of carbon will cause an abundant disengagement of sulphurous acid gas.

The roasting heaps of sulphurets of iron and copper, destroy vegetation for some distance around, and the action is most marked when there is moisture on the leaves, the acid being thereby condensed. Alum is not volatile at any heat used in brick-making. It may be decomposed by carbon and lime at a red heat, and then gives forth sulphurous acid gas. Sulphates of potash and soda are decomposed in the same manner. I have not observed any injurious effects produced by the burning of bricks in this vicinity, but since you have called my attention to the subject I will inquire into the matter. C. T. Jackson.

(*b*) The five toes on Dorkings are a source of great fraud. Almost every fowl with that number of appendages is brought to market and sold as a pure-bred Dorking. In order to avoid this, the number of toes is not to be depended upon alone, as plenty of fowls may be had with five toes that are only half-blood. In Surrey, England, where the Dorkings originated, and are largely and better bred than elsewhere, the most celebrated breeders have commenced to breed for only four toes. The best Dorking fowls that we have ever seen had only four; and it is a curious fact that, among the pure unmixed breeds, where they have five toes, it frequently occurs that their offspring will have but four.

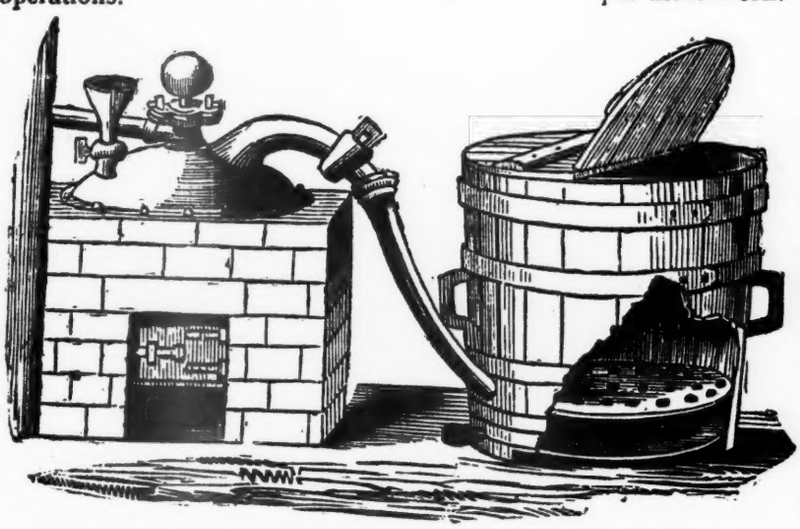
It may be interesting to some to know that it is of this breed of fowls that the capons, so much esteemed by English epicures, are made whenever they can be procured.

STEAMING FOOD.

In the preceding volumes of this work, we have given various articles on grinding and boiling food for stock, accompanied with numerous illustrations. We shall now treat of steaming food, for, in some respects, it is superior to boiling.

In boiling, the blaze is outside of the kettle and the food inside; it is, therefore, in continual danger of being burned and much injured, unless some one stands by constantly stirring it. This is not only troublesome and inconvenient, but often adds more to the expenses of cooking, in the time of the person thus employed, than under ordinary circumstances can well be afforded. Nor do we see how this is to be avoided, unless the kettle be made with false sides and bottom, allowing several inches space between them and the true, which space must be kept constantly full of water. This would nearly double the expense of the apparatus, require its being closely watched during the boiling, in order to fill the space between with water as fast as it evaporated; the process of cooking would also be slower in this method, as it would require more heat around a double than a single kettle to bring the water within to a boiling point

If food is to be cooked, on a small scale, boiling may be cheapest; if on a large scale, steaming is not only cheapest, but infinitely more compact; for the former would require a very large, or several furnaces, for different sets of kettles, whereas, the latter may be done with one small furnace, steamer, and pipe, as shown in the cut, with any reasonable number of vats or tubs surrounding, in which to steam the food. In order to do this, the steam pipe must be made movable with a screw, flexible, or be composed of some material that when the food is cooked in one tub, the pipe can be turned and inserted into another. We have seen no less than five tubs, holding 150 gallons each, surrounding a small steamer, all of which could be filled with food and cooked within twenty-four hours. Three tubs, however, are usually sufficient for a large stock, in which the food of the first may be cooking, that in the second cooling, while that in the third is being fed out. A single person may be able to oversee, and efficiently manage all these operations.



STEAMING APPARATUS.—FIG. 1.

The furnace, steamer, and tub, are so plainly delineated in the above cut, that they need no explanation. In cooking potatoes and other roots, the tub should have a false bottom perforated with numerous small holes, and set resting on blocks from 3 to 4 inches above the true bottom. The steam-pipe should enter the tub nearest to the true bottom. The steam is thus introduced between the two bottoms, quickly rises upward, and is evenly diffused through the whole of the food. While the cooking process is going on, the top of the tub should be kept down as tight as possible, so as to prevent the escape of any steam. In cooking grain or meal, the false bottom must be taken out and the tub filled with water, as the steam heats the water and brings it to a boiling point as readily as a blaze or hot coals around a kettle.

Steaming is said to do its work more thoroughly than boiling, as it is so insinuating, it easily enters and bursts all the minute globules in the grain and vegetables. Be this as it may, certain it is, that either process renders the food more digestible, and easier assimilated by the absorbing vessels, and therefore more economical.

The following table in the Edinburgh Journal of Agriculture, shows very nearly the increase of bulk of different kinds of grain boiled to bursting.

4	measures	of	oats	increased	to	7	measures.
4	"	"	barley	"		10	"
4	"	"	buckwheat or bran			14	"
4	"	"	maize	increased	to	13	"
4	"	"	wheat	"	"	10	"
4	"	"	rye	"	"	15	"
4	"	"	beans	"	"	8½	"

Boiled food, especially in winter, is much more nutritious, if fed as nearly blood warm as possible. If quite cold, or, above all, if in the least degree frozen, we doubt whether it is so beneficial as if uncooked—grain and meal we are certain are not; for animals will eat the raw, cold, more greedily than they will the cooked. Stock fed upon cooked food will eat more of it than if uncooked, and lie down quicker to rest. Of course all this is better for them, as they will thrive faster, look finer, and do more work. It is particularly beneficial to give hard-working horses or oxen, just as much wholesome, cooked food, as they can eat, soon after coming in at night. Toiling all day in the open air, man appreciates and knows well the benefit of a warm, hearty supper. Let him remember, then, that a warm mess and abundance of it, is equally beneficial to the animals which a kind Providence has given him as efficient aids in his arduous labor. If southern planters also would give their mules cooked instead of raw food, at noon and night, we are persuaded it would put an end to the colic, so often destructive among them. Cooking would also considerably economize the food.

SENECA COUNTY AG. SOCIETY.—We are favored with the annual proceedings of this Society. It distributed about $300 in premiums at its last show, and has a goodly number of members. The average product of wheat in Seneca county, is 15 bushels per acre; barley, 14; oats, 35; and corn, 27. The President of the Society, John Delafield, Esq., states in his address, that the cost of raising an acre of wheat in round numbers, is $13; that in order to make the crop pay, a larger average must be produced, which he demonstrated could be easily done under an improved state of husbandry, as many farms in the county still average from 20 to 35 bushels per acre. The number of sheep in the county is estimated at 7,000, mostly Merinos. We notice that the President of the Society took the first premium for the best farm. This speaks highly for Mr. D., as it is but a short time since he left this city, and commenced the cultivation of mother earth.

SEIDLITZ POWDERS.—Each dose contains 25 grains of tartaric acid in the white paper, and 30 grains super-carbonate of soda, mixed with two drachms of glauber salts, in the blue.

GARDENING.—No. 10.

THE art of gardening, in the earlier ages of society, was practised without those local subdivisions, or technical distinctions, which its progressive improvement has since rendered necessary; and being carried on in one enclosure, called a garden, the term gardening was then sufficiently explicit for every purpose. But, at present, the local subdivisions and technical distinctions of this art are various; we have the kitchen, fruit, flower, forcing, and exotic gardens, the pleasure ground, park, shrubbery, &c., all within the province of gardening; and the terms culinary gardening, fruit gardening, or orcharding, flower gardening, &c., as technical distinctions for them. Such being the state of the art, it would be folly in us to endeavor to limit the term gardening to any standard below that in which it now ranks, although it is very desirable that gardeners and authors should not use these terms in so vague a manner as to create any confusion of ideas on the subject.

In treating upon the practice of gardening, allow me to define my position and state my intended course. We think that all varieties of gardening may be included under four heads, as follows:—

Horticulture, the object of which is to cultivate products used in domestic economy. It includes culinary gardening and orcharding; and forcing or exotic gardening so far as respects useful products.

Floriculture, or ornamental gardening, the object of which is to cultivate plants ornamental in domestic economy. It includes flower, botanic, and shrubbery gardening; and forcing and exotic gardening so far as respects plants of ornament.

Arboriculture, or the planting of trees and shrubs, either ornamental or useful.

Landscape Gardening, the object of which is, so to arrange and harmonize the external scenes of a country residence, as to render them ornamental, both as domestic scenery and as a part of the general scenery of the country.

The first variety under the head of horticulture is culinary gardening. Let us attend to this closely, as it is one of the most important branches; for it has been truly said, that "next to a badly designed, ill-placed house, a misplaced, ill-arranged, and unproductive kitchen garden, is the greatest evil of a country residence."

Situation.—"The situation of the kitchen garden, considered artificially, or relatively to the other parts of a residence, should be as near the mansion and the stable-offices, as is consistent with beauty, convenience, and other arrangements." (*Loudon.*)

"A kitchen garden should not be situated at any great distance from the house, lest, being too much out of sight, it should be out of mind, and the necessary culture of it too much neglected." (*Dr. Deane.*)

"In a great place, the kitchen garden should be so situated as to be convenient to, and, at the same time, be concealed from, the house." (*Nicol.*)

"It should be placed adjoining to a stable, whence the dung may be easily conveyed into the enclosure." (*Fessenden.*)

"A gentle declivity towards the south, a little inclining to the east, to receive the benefit of the morning sun. If it be situated in a bottom, the wind will have the less effect upon it; but then damps and fogs will be very prejudicial to the fruit and other crops; and if situated too high, although it will in a great measure be free from damps and fogs, it will be exposed to the fury of the winds, to the great hurt of the trees." (*Forsyth.*)

"The situation should not be so elevated as to be exposed to boisterous and cutting winds; nor should a very low situation be chosen, if circumstances afford any choice. It should be situated conveniently for access from the house." (*Abercrombie.*)

"Avoid low situations and bottoms of valleys, because there is often a sourness in the earth that cannot be eradicated. (*Switzer.*)

From these various opinions it would seem that the most proper situation for a kitchen garden, when circumstances will admit, is a gentle declivity to the south and east, and in the rear, but close to the dwelling-house, easy of access from the stables, and if possible entering it from the house, on the southern or south-western side. L. T. TALBOT.

IMPROVEMENT OF WORN-OUT LANDS.

AN opinion has prevailed, that, when lands are worn out by culture, without manuring, they become worthless, and cannot be restored. I herewith furnish an example of the fallacy of that opinion.

Four years ago, I purchased a farm of little more than forty acres, near the north edifice of Union College, and about a mile and a quarter from my dwelling in town. It had been called the *Penny-royal* farm by way of ridicule. This farm was chiefly occupied with thorn bushes, briers, and other worthless shrubbery. It had been cultivated by the former owner so long as it would produce buckwheat, or anything, without any manure.

A small patch, enclosed with the garden, was in rye, and had been sown with foxtail (commonly called timothy), and I sowed foxtail again on the rye; the next season grass. When the hay was in cock, my farmer asked his man to take the hay as a reward for mowing it, which he reluctantly accepted. The other parts of the farm were pastured, producing some sour grass, moss, and bushes. We plowed a few acres of the sward, and planted it with Indian corn. A part was manured with poudrette, and some with plaster, ashes, and manure. Where the poudrette was applied, it took the lead greatly for awhile, and eventually all was of equal growth, and a good crop. The following crop was oats, and good. We then put on a good coat of barn-yard manure, plowed and sowed it with winter wheat, the yield of which was very fine, and about thirty bushels to the acre. No better wheat was seen in this region. We have put on the cultivated part of the farm from two to three hundred wagon loads of yard and stable manure annually.

The farm is high land, and an inclined plane to the west. The same rising slope east, with the adjoining part of this farm, has a stone quarry, about two feet below the surface. The depth of soil increases as it declines to the west. The rains and melted snows flowed over the whole surface, when I took possession. The soil is generally of stiff clay. In April, it was so wet, that when walking

on the grass, the water would wet over the shoes. I opened a ditch along the east bounds, which conducted the surface water to the road. I then made a number of ditches, of three and a half to four feet deep, and covered them, after laying a drain of stone large enough for a cat to pass through. The sides were laid with stone and a stone cover, then straw, or turf, the grass-side down, before covering with earth. The ditches yield a regular and clear stream till June or July. The land becomes sufficiently dry for the plow and meadow, and produces bountifully.

A meadow, in a detached piece towards the west, I ditched in a similar manner, and it yielded a pure stream till midsummer. The former owner came to see it mowed, and said, that he never before saw the timothy *eared out*, nor of half so large a growth. This was the effect of draining only, I had not manured the meadow. This meadow had not been plowed before. My crops have been as good as those of our best farmers. I have set some hundreds of plum, pear, peach, quince, and apple trees, on the farm, and grafted the old orchard, intending to make it a fruit farm.

An opinion has also prevailed, that the old and best pears have *run out*, as the saying is, and have become worthless. This is also an error. If the old trees which produce poor fruit, are well manured, they will be restored to their former value, and yield good fruit, large and fine. Try it, as I have done with my pennyroyal farm. It is a common opinion, that after setting trees, the work is finished. Trees profit by manure, as other vegetables do. Feed bountifully, and you may reap bountifully. Everything possessing life, whether animal, bird, or vegetable; whether living on land, in the air, or in the water, must eat, drink, and breathe, to sustain life. An oyster, or clam, requires very little air; deprive them of it, and they perish. Land animals and vegetables must not be suffocated with water, nor those of the water by air. Agricultural papers have done much to improve the system of farming of late. Farmers will profit, and be well rewarded beyond their cost, by reading them regularly. I gathered quinces to-day, in my garden, in town, and found the largest to measure 12¾ inches in circumference, and weighed 15½ ounces.

DAVID TOMLINSON.

Schenectady, October 22d, 1846.

COUNTY FAIRS.

THE best index we can have of the progress making in agricultural improvement, will be the prosperity of county societies. If these are prosperous, and are constantly increasing in the number of their members, and in the interest they awaken, then we may be sure that the right feeling is abroad, and that the great mass of farmers are becoming aroused to the importance of a general organization. It has so happened that I have attended the fairs in three several counties, this season, Wyoming, Genesee, and Monroe, and at each I saw much to encourage, much to commend, and I propose to give you a short account of each, with such remarks as suggested themselves to me at the time I was present. I will take them in the order they occurred, and first

Wyoming.—The annual show and fair for this county was held at Warsaw, on the 6th and 7th of October. The weather was beautiful, and the show of animals very good. There was a very large attendance of people on the first day, and a very fair one the second. Considering that it is purely an agricultural county, having no large towns, and but few villages, and those small, I think the number present was the largest I have seen at any county fair in this section of the state.

I am the more gratified at this large turn-out, from the fact that when we formed our society in this Genesee county, Wyoming was a part of our territory; and at our first fair, which was in 1840, I think there could not have been twenty people from that whole region. On the present occasion, there were not far from 3,000 at the exhibition, and the society is not four years old. The farmers are wide awake, and this county may be set down as one whose course is henceforth onward with rapid strides.

Genesee.—The fair in this county was held at Batavia, on the 8th and 9th instant, and in almost every particular was equal, if not superior, to any we have yet had. The turn-out of people was very large, and the show of animals, especially of sheep, was unusually good. Our show last year was so very poor that it was feared it would be a total failure this; but the farmers rallied nobly, showing conclusively that there is no fear for the cause here. What is peculiarly gratifying, we obtained an abundance of funds this year, without any trouble. A resolution was adopted in the spring, pledging the next annual exhibition to that town which should raise the most funds for this year. There was a good deal of competition, and the town of Stafford obtained it. Our show will be there next year, and I anticipate the greatest show we have ever had yet. As an evidence of the spirit which is abroad, the wool-growers of this county and Wyoming are preparing to form a "Wool-Growing Society," and to hold two fairs annually, one in spring before shearing, and in the fall, as late as the season will permit. I am in hopes that we may connect with it a wool fair. But of all this, I will advise you in due time.

Monroe county fair was held at Rochester, the 15th and 16th inst., and for so fine and rich a county was not what I expected to see. The arrangements were very good upon the ground, and the officers seemed to have done their duty faithfully, but the people had not done theirs so well as they ought. The show of animals as a whole was very indifferent, though there were a few fine ones. Of swine there were several very fine. There was a fair share of coarse-woolled sheep, but a very poor one of fine-woolled. The cattle were good generally, but there were a very few exhibited. The show of horses was also tolerable. Decidedly the best exhibition was of various agricultural implements, and of fruits. The exhibition of domestic goods manufactured in all the counties, was only tolerable, the best in Wyoming, the poorest here.

But from all this, I argue good results, and that next year they will have the best show ever seen in Old Monroe, for a county exhibition. The attendance of people at this as well as at each of the other county fairs, was unusually large. Upon the

whole we have most cheering evidences that the cause has taken deep root, and the good fruit will soon begin to show itself.

Mr. J. B. Nott, the secretary of the State Society, addressed the meeting in Genesee and this county, and let me say to you and all others, that the course he has pursued has had the most happy effect upon the farmers. His addresses are eminently practical, and carry conviction to every mind. He deals in, and disseminates facts, and these are just what we farmers want. The services of such a man properly employed by the society, are invaluable, and will lead to the most important results.

Darien, Oct. 20th, 1846. T. C. PETERS.

A SKETCH OF WEST CHESTER.

IT gives me sincere pleasure to learn from the November number of the Agriculturist, that your very agreeable friend, "Reviewer," has advanced so far south as to pay a visit to West Chester, Pa., at least I presume he has seen the *water ram* to which he alludes. I am in the habit of going there at least once every year, and speak from actual observation—and if "Reviewer" has also had the good fortune to enjoy the hospitality of its inhabitants—very sure am I, he will cheerfully bear witness to the truth of the following slight sketch.

He will agree with me when I say there is more love for improvement, science, and public spirit, in that little borough, than any one would even dream of. To be understood, I need only name the water-works, that send an abundant supply of pure spring water to every dwelling, and furnish the luxury of private baths to every family that choose to avail itself of the privilege; their excellent railroad, on which passengers are conveyed twice every day to and from Philadelphia, by steam; and the public and private schools and academies, of which no community of equal numbers can boast more, or better. They have a large and handsome building for a Cabinet, furnished with a beautiful philosophical apparatus; a museum of native and foreign specimens of nature and art, well arranged and preserved, that would do honor to a much larger place. A large, and admirably arranged herbarium, that owes its existence to the untiring zeal and exertions of Dr. William Darlington, who is well and advantageously known as the author of several valuable botanical works, and numerous lectures and addresses on various occasions. They have many fine public buildings, some of which are in the purest styles of ancient architecture; wide streets, laid out at right angles, and gentlemen's residences surrounded by tasteful gardens, and embowered with flowering vines, speaking in language not to be misunderstood, that they are the abodes of refinement, as well as of wealth. They have an Agricultural Society—for the pride of that county lies in their farms and their farming—and, more recently, a Horticultural Society has been established, that promises to make Chester county as advantageously known for its fruits, vegetables, and flowers, as it has long been for the more substantial gifts of Ceres. At their first annual exhibition, held last September, the display of fruits was remarkably fine, and some of the best being transferred, in the following week, to the annual exhibition of the Philadelphia Horticultural Society, received prizes there also. The culinary vegetables made a very creditable show, and spoke well for the cultivators; and gave pleasant anticipations to the intended consumers; and the well-filled stages of green-house plants contained a large proportion of rare and valuable species. As to the flowers, whoever has the honor of being acquainted with the ladies of Chester county, will not be surprised to hear that they were beautiful, tastefully arranged, and in great profusion.

To this catalogue, it is hardly necessary to add, that as a community, the inhabitants fully appreciate the advantages they enjoy in their institutions, and sustain them cheerfully and liberally; and the people of Chester county who have contributed thus to raise their county town to the eminence it occupies, from whence it may look proudly down on cities of thrice its size and wealth—set an example well worthy of imitation, in their liberality, their literary and scientific tastes, and their enlightened encouragement of every branch of useful and ornamental art and industry.

West Chester is not one of our *old* towns; fifty years ago, it could hardly boast a name among the neighboring villages. To mention any one as the leading spirit, where so many have combined to raise its moral and intellectual character, and produce the effect we so heartily admire and commend, might seem invidious; yet it seems to me that all point either openly or tacitly, to one as the mainspring of every enterprise; but as all his neighbors are considered by him as equals and friends, rather walking with, than following in, the bright path of improvement,—I will forbear to point him out more closely. E. S.

Eutawah.

THE MONTHLY ALPINE STRAWBERRY.

THE monthly alpine, or *bush alpine*, as it is sometimes called, is perhaps the finest flavored of all the numerous varieties of strawberries which are at present cultivated in this country. Without exception, it is by far the most prolific, being a constant bearer from the latter part of May until November, in the open air, or the whole year when under glass. It is propagated from the root, and being without runners, forms a neat inner or outer border for the garden, occupying but little space, and growing very compactly and evenly.

The fruit in wet seasons is as large as the common strawberry, and in soils at all retentive of moisture, success in the cultivation of it is certain. It is very exclusive in its habits, showing no disposition to amalmagate with other varieties, although the females are in a decided majority. I think it was first introduced into this country by the late M. Parmentier, from France, since which time it has run out of most of the nurseries. I sent you some plants last spring, and I hope they fulfilled your expectations, thus making you an endorser of all I say in relation to them. I have also a remarkably fine seedling, the berries measuring last season five inches in circumference, and being peculiarly rich in flavor. You shall taste them and pronounce judgment, next strawberry time, if I have a fair crop. WM. B. ODDIE.

Effeuveldt, Rockland co., Nov. 21st, 1846.

MANAGEMENT OF HONEY-BEES.—No. 6.

THE rendering of the moth powerless to do harm, simply through the ability of the bees to *protect themselves*, may be illustrated as follows:—

In a thoroughly strong stock of bees the moth has never, as yet, been known to obtain a lodgment to undermine them; if *all* stocks can be kept in a strong condition, it follows that *no* stocks will be undermined. Now, a swarm or stock of bees is strong, and able to resist the moth in the ratio of their numbers to the area to be defended. A thousand bees at work in the corner of a hive, covering fifty square inches of comb, are as fully able to protect themselves against the moth, as twenty thousand bees in a full hive. A stock is strong when every part of the combs is densely covered with bees, and a surplus is found below unable to get admission, without any regard to the size of the hive, and all such stocks *will* defend themselves successfully against the attacks of the moth; but the question is, how can we always have our stocks in this strong condition? It is in using certain means which we have in our power, to promote the fecundity of the bees—to adapt the size of our hives to their natural increase, neither giving them too much, nor too little room, and so shaping that room, that the bees operate to the best advantage, in all the ramifications of their employment, and, above all, admitting a plenteous infusion of fresh air, that gives life and vigor to all animated nature. These things taken in connection, give the greatest possible increase of the bees, and produce a strong and healthy progeny, active and vigorous, that live out all their days, always showing full hives, with an abundance of stores, acting on the defensive with power and spirit—such are the bees that bid defiance to the moth. On the other hand, hives poorly adapted to the natural requirement of the bees, too large or too small, ventilated in the wrong place, or perhaps not at all, the bees weak and feeble in infancy, or in their early development, from the want of a pure atmosphere, left perhaps on a short allowance of winter food, which leaves the bees in a weak and feeble condition in the spring, from which they barely recover, thus diminishing their increase in a great degree, and becoming an easy prey to the moth—such are the stocks that are subject to become undermined by this insect. There are cases, however, in which the strongest stocks are suddenly weakened by *over-swarming*, and may be destroyed by the moth. This very seldom occurs. The only stock that I ever lost by the moth was in this way. It threw off three large swarms, and the last one was larger than the stock could bear. I did not notice it till too late to save them. The only remedy in such a case, is to return the swarm to the parent stock, as soon as hived, or at evening, when the condition of the parent hive can be readily seen. It is probable that a future swarm would not issue, and if one should, it is not probable that its numbers would endanger the parent stock. The mode of returning a swarm, is to place a table alongside of the bottom-board of the hive to receive the bees, and even therewith, touching the bottom-board; then place the swarm near the old hive, and raise the new hive a few inches from the table, and then bring it down diagonally upon the table, with sufficient force to dislodge the bees, which will immediately take to the old hive. As soon as the bees are dislodged, draw your hive quickly to the farthermost corner of the table, and lay it down upon its side, in order to allow such bees as remain inside, to escape. It is best to lower the front of the bottom-board of the old hive, before dislodging the swarm, an inch, at least, or the swarm would have difficulty in entering rapidly, and might cluster upon the outside, and in the morning take their flight.

The means to be used in order to have your bees able to defend themselves against the attacks of the moths, is nothing more nor less than the system of management, as defined in these numbers. I have kept my bees on this plan a certain number of years, during which time I have lost *one* stock by the moth, as before stated, and that was owing to excessive swarming. In the same length of time, one of my neighbors, who founded a colony of six hives, on the patent principle, with apparatus to prevent the entrance of the moth, *has lost every one of his stock!* Another neighbor with the same kind of hive, met with severe loss also. These, you understand, were hives patented as *proof against moths*, with small narrow tubes through which the bees enter, which it is contended the bees will successfully defend. Now, instead of closing up the bottoms of my hives, I leave the whole circumference exposed, as before stated, and my bees defend themselves successfully; and in order to do this, the bees must be placed in hives of a size that their natural increase will always keep full, at the season of the year that they are subject to the moth. Here we at once see the absolute necessity of studying the science of the *correct size of hives*; for there must be a *right* and a *wrong* side, and a *right shape* and a *wrong shape*. No one can suppose that a hive may either be large or small, short or long, and make no difference with his success; hence, if we must have a *certain* size, let us place that size as we find from experience that it should be. I find that hives 12 inches square in the clear, do better than larger or smaller ones, and for my reasons more fully, the reader is referred to vol. 5, pages 343–'4 of this paper. I do not say that a variation of an inch or two either way would be a cause of unsuccess in all cases, but I am fully satisfied that more space than a *cubic foot* is superfluous, and for reasons before given, I confine it to a *square*.

But, aside from the foregoing, I think I may safely say, that without a correct knowledge of a proper *winter* management, all our efforts may avail nothing. By various experiments of heat and cold afforded to my bees, I find that there is no such thing as *freezing* bees to death; and the *colder* they are kept the better. By keeping the bees cool not half the number die during winter, and when the season of increase arrives, a few days will serve to fill the hives to overflowing, and they will generally keep so during the summer, and will be able to bid defiance to the moth.

In answer to the query of "Reviewer," how it happens, if hives must be no longer than wide, that bees flourish so well in hollow trees? I admit that bees will "flourish" to a certain extent in anything—in a flour barrel, or stove pipe, if you please; but

for the greatest increase, and the greatest product of honey, in a certain number of years, from a single swarm, we must not go to "hollow trees." In the case of "Reviewer," perhaps the stock had remained in the tree *ten* years, without ever having issued a swarm; now, what would have been the result if that swarm had been hived by an experienced apiarian?—*not less than one thousand swarms, and honey enough to load a ship*, during the ten years.

Ravenswood, November, 1846. T. B. MINER.

LETTERS FROM THE SOUTH.—No. 2.

THE time limited for my arrival at this place, allowed only of a brief visit to two plantations in my route. The first of these, belonging to Colonel Wade Hampton, is the largest, and one of the best managed estates in the South. It consists of several thousand acres of light upland, principally, sustaining a natural growth of pine and various species of oak; and some 2,000 or 3,000 acres of very fertile bottom lands, occupying the left bank of the Congaree, near Columbia. The characteristic hospitality of its gentlemanly and intelligent proprietor, demanded that my headquarters, while in the neighborhood, should be at his own mansion; and accordingly, after spending a part of the day in Columbia, I found his carriage waiting to convey myself and baggage to his delightful residence about four miles distant.

My attention was first directed to the arrangement of the grounds, buildings, &c., immediately adjoining the mansion. These are commodiously and tastefully arranged. The house is a large, elegant modern building, occupying the most elevated point, and commanding an extensive view of the Congaree and country far beyond it. This is flanked by various appropriate outbuildings; and on the declivity of the hill (and for the purpose of securing water for the aquatic fowls), at some distance is located the poultry-yard. The latter embraces several acres, and on its lower side is a pond, which is supplied by several pure springs, and is so arranged as to be drained at pleasure, for the purpose of securing entire cleanliness. The poultry-house, which contains a separate department for the larger and smaller birds, affords ample protection also against heat and storms, for the ducks and geese, and is well stocked with numerous specimens of some of the best varieties, including several wild turkeys. The enclosed buildings are well ventilated, and kept scrupulously clean by the daily removal of all the dirt. An extensive enclosure adjoining, was sown with southern rye, to yield a supply of green food for them through the winter. These arrangements, protection, ventilation, shade (for there were several trees in the yard in addition to the sheds), an abundance of pure water, gravel, green and other food, ensure almost perpetual health and thrift to the feathered tribes.

After breakfast, we mounted elegant thoroughbred saddle-horses, and rode about two miles to the mansion of the late General Hampton, now unoccupied, in the vicinity of which is kept a part of Col. Hampton's stud. This embraces numerous specimens of the best imported English horses, besides many of great merit, which he has bred himself. Col. H. was a large purchaser at the sale of the late royal stud of William IV.; and Monarch and King William, two of the animals bought on that occasion, possess good size, fine forms, and are scarcely surpassed for reputation as breeders. Two of the mares procured at the same time, seemed to me to combine all that was necessary to perfection in blood stock; but I wish to add as a salvo to my judgment, that I am rather an amateur than a critical judge of such matters. A ride of another mile brought us to a village of laborers, surrounded by upland cotton fields, which, though perfectly cultivated, owing to the lightness of the soil, produced only a moderate crop. Passing these, we came to another settlement, where the principal buildings for the people on the plantation are located. These consist of a grain mill, cotton gins, and presses, all of which are driven by water power; extensive barns, store rooms for grain and cotton; sheds for wagons, harness, and farming utensils; piggeries, &c., &c. In addition to the above, is a neat and commodious building for the religious meetings of the slaves. A clear stream, which runs for miles on the estate, furnishes perpetual water power for a saw-mill about four miles above, and an adequate supply for the mill and all the machinery at this point. A short distance beyond these, brought us into the bottom lands on the Congaree, generally elevated above the highest rise of the river, where 800 acres of corn and 1,600 acres of cotton were cultivated in a single field. And here the hands were busily occupied in gathering the snowy crop, and the luxuriant corn, the ears of which are standing some 6 or 7 feet high, and around most of the stalks, the cow-pea clustered, with its long, pendent pods, containing from 16 to over 20 peas in each. As these are gathered they are loaded, and carried by four-mule teams to their appropriate places of deposit. The first to be ginned, pressed, and baled for market; and the last two, to be stored for future sale, or what is more usual, for consumption on the plantation.

Nothing could be more perfect than the cultivation of these various crops. Numerous ditches drained off all stagnant water, and an extensive embankment (underneath which, an aqueduct, carefully protected by gates, led off the surface water) effectually guarded the lowest of the land from the overflowing of the floods. While numerous graceful avenues and copses of shade trees are scattered over different parts of the plantation, and ornamental trees here and there, occupied this field, anything like brush or rubbish was effectually removed, and the useful vegetation alone covered the ground. This is not limited exclusively to the cultivated plants; for though everything like grass or weeds is rigidly excluded in the early stages of the crops, yet as these approach maturity, the thick netting of crab and various other grasses and plants, which are ever struggling for existence in this warm clime, are allowed to come forward and mature; and their growth furnishes forage for cattle and sheep during the winter, and an important addition to the vegetable manures for turning under and adding to the fertility of the soil. By intelligent planters, the cow-pea is usually sown among the corn in summer, and without materially diminishing the grain in any season, which in such as are dry and seethy, they decidedly improve by their

thick shade of vines and leaves. They yield from 10 to 25 bushels of peas, besides good forage for mules, cattle, and sheep. An average cotton crop on good uplands in South Carolina, is from 600 to 1,000 lbs.; and on bottom lands, 800 to 1,600 lbs. per acre, which yields about 25 per cent. of clean cotton. The seed constitutes about 70 per cent., and is useful for feeding to cattle; and when boiled it is good for swine, and even for cattle it is much improved by cooking. When pressed, it yields from 15 to 20 per cent. of very good oil; and the cake which is left affords excellent food for stock. Both the seed and cake are frequently used for manure. Most of the corn crops in the south are light, the thin uplands which have been considerably worn, often yielding less than 15 bushels per acre; but much of that grown by Col. Hampton on his hot soils, yields from 50 to 80 bushels, in addition to the cow-pea, or an occasional crop of pumpkins, which in some seasons grow in great profusion.

Though expecting to find much superior stock in the hands of so spirited and intelligent an agriculturist, I was surprised to see so large a herd of pure bred Durham cattle. Col. H. informed me that his father procured the breed as early as 1793, from Mr. Heaton, of Westchester county, N. Y.; and in addition to breeding the original stock pure, he has at different times incorporated various meritorious importations with it. A very valuable cow imported from England, was grazing among the herd; and his young bull, purchased a year since from Mr. Vail, of Troy (out of Lady Barrington), is destined to sustain the high character of his stock. There were also several very fine specimens of the Devons crossed with the Durhams. And yet, with this continued example of fine and successful breeding, for more than half a century, most South Carolina planters neglect to improve their stock with these valuable animals, entirely within their reach.

Col. H. has also a choice flock of long-woolled sheep, many individuals of which cannot be surpassed in the United States. These too he has bred for a long time, and finds them every way adapted to the soil and climate. The merits of the improved breeds, both of cattle and sheep, fattened on southern pastures, were afterwards practically illustrated at dinner, by a baron of beef and saddle of mutton, which would have reflected the highest credit on both Englands, whether New or Old.

The mules, of which about 80 are kept on the plantation, are generally of superior merit, and several recently purchased from Kentucky and Ohio, could not be exceeded for size, compactness, perfection of form, and hardiness. Good mules are worth from $100 to $130 each, a price at which they will yield a good profit to the breeder.

The sheep, together with the cattle, mules, and horses, which are not at work, are turned into the natural pastures in summer, and in addition to these, they have the run of the corn fields in winter, and without seeing any other shelter against the severest storms, than a thicket or hill-side, they thrive and fatten throughout the year. This condition is secured by the mildness of the climate, and the consequent continued growth of vegetation during the entire winter. Swine fare indifferently on their wild pasturage, unless for a short time, after a plentiful harvest of mast. Many of the Berkshires in Col. H.'s pens were fine specimens of size and form, but he is more partial to the large white pigs you recently sent him from New York. The country and soil, which is generally dry and rolling, is admirably adapted to sheep, and it would seem to require only proper attention and the destruction of the innumerable hordes of dogs which infest the state, to secure this as one of the best wool-producing regions of the United States. The ewes are bred to drop their lambs in autumn, which in this hot climate is decidedly preferable to spring, as fresh grass is abundant here all winter. I regret that the limited time I had to devote to looking over Col. Hampton's superb plantation and its choice stock, precludes my giving anything more than the above crude and brief notice of it; for weeks might be profitably spent here in studying its details and admirable general management.

The whole country about the Congaree is one of the most eventful in our Revolutionary strife. It was here especially that Marion, the "*swamp fox*," and Sumpter, the "*game-cock*," as they were called, ferreted out their miscreant enemies, the Tories, or met their more open foes, the English regulars—in bold and successful warfare; and by their indomitable courage and skill, accomplished so much in finally expelling them from the country. It was here, too, the gallant Green, inferior to no other American officer that has ever lived, not excepting even Washington himself, for courageous attacks or, if overpowered with numbers, for skilful retreat earned unfading laurels for himself, and security for his suffering country. The site of Mrs. Mott's house, so long occupied as an English fort, or refuge for our enemies, and a terror to the surrounding country, but at last so adroitly captured by the Continentals under Marion, was pointed out to me, a few miles below Columbia, on a steep and elevated bank of the Congaree—an achievement that would have been impracticable, but for the patriotic sacrifice of the fair heroine in devoting her own splendid domicil, with its treasured household gods, to destruction, so as to drive out its sheltered inmates to certain capture or death, before the arrival of a large reinforcement which was close at hand Mrs. Mott furnished the bow and arrows, with which flaming combustibles were shot upon the roof. This soon terminated in its entire destruction

Columbia, the capital of the state, is beautifully situated on a commanding eminence, which overlooks the valley of the river for miles, and an almost illimitable prospect beyond. It embraces several public edifices, and a flourishing college of 200 students, under the charge of that eminent scholar, statesman, and patriot, the Hon. Wm. C. Preston, late Senator in Congress. A branch of the Charleston and Augusta railroad is extended to this place, and the cotton and other trade enjoyed by the citizens is important and lucrative; 20,000 bales, one-twentieth of the entire crop of the Union, was received here two years since, and the average receipts for the last ten years have been 107,000 bales.

R. L. ALLEN

New Orleans, Nov. 26th, 1846.

THE COTTON MOTH.

The following observations were suggested by the very interesting article in the November No. of the Agriculturist, on the Destruction of the Cotton Crop by Insects. I now beg leave to offer them, hoping that they may throw some light on that part of the history of the insect of which the author professes himself ignorant.

Of the particular species to which he alludes, I know little more than is to be gained from dried specimens in my cabinet, but on referring to my journal, I find from observations made during the last ten years, that the development of moths and butterflies from the pupa, always depends on atmospheric influences; those, for instance, preserved in the pupa state during the winter, will be developed earlier or later in the spring, according to the warmth or coldness of the situation in which they may be placed; and those that become pupæ, during the early part of the summer, do not require more than five days to pass through the change, if the weather be hot and moist (dry heat is extremely unfavorable to the expansion of their limbs after their escape from the cocoon), while a second brood from eggs of these flies will remain in the pupa all winter should the weather be cold, but if warm, some will be developed even in mid-winter; these, of course, do no injury, as there is then no vegetation on which to deposit their eggs, and a moth seldom lives in the winged state more than from five to twelve days. In warm climates where vegetation is redundant and in a fit state to feed the young worms, they may be found in succession all the year. Should the summer be long, there will be two or three broods of those worms that feed on plants retaining their leaves for a long time, such as the willow trees, while there will be but one of those that feed on short-lived plants, such as the potato.

In June, 1840, I fed some of the larvæ of the butterfly (*Papilio asterias*), which I found on the wild carrot, changed to pupæ on the 12th of July, and on the 16th, the perfect flies were developed; from these another brood was raised, which remained in the pupa state until the following spring. In 1843 I raised three broods of the bee-moth (*Galleria cereana*), the larva of the first were procured from a hive. I placed a piece of the comb on which they were feeding under a bell-glass, these soon became pupæ, and in fourteen days changed to the moth; these in a short time deposited their eggs on the remaining wax, which in five or six days were hatched, and attained their full growth in three weeks; went through their changes and deposited their eggs on the fragments of wax that lay scattered around; the larvæ from these fed for a short time, but perished for want of food, having devoured not only all the wax that remained, but the bodies of the mother moths. A variety of the hairy caterpillar which Harris calls the yellow bear (*Arctia virginica*), perfects two broods in the Middle and Southern states, and sometimes attempts a third; but the summer being too short, most of them perish, though many hibernate during the winter. I have found the full-grown caterpillars alive and in search of food, during the mild weather of January, 1842, and February, '43, and yesterday (Nov. 12th) I gathered several from the field, intending, if possible, to keep them until spring, to ascertain their future history. Judging, therefore, from analogy, and the minute description given by Mr. Affleck, the history of the cotton-moth (*Noctua xylina*) may be briefly this:—

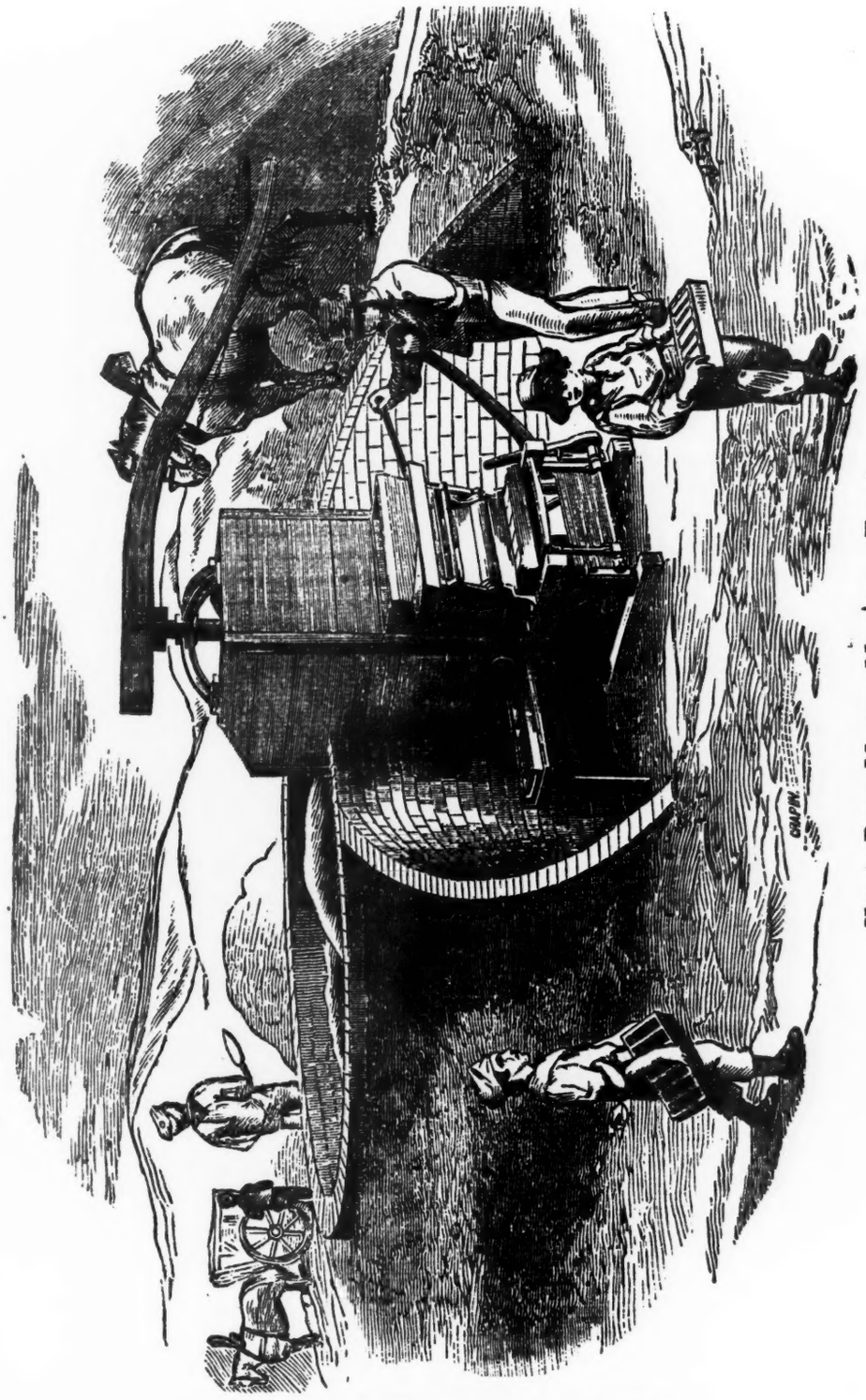
The moth appears in the spring, when the cotton plant is in a fit state to receive the eggs. She places these on the leaves of the plant to the number of from two to six hundred; these hatch in from two to five days, according to the weather. The young larvæ are very minute, but grow rapidly, attaining their full size of one and a half inches in from fourteen to twenty days, during which time, like their congeners, they moult every eight days. The difference in the color of the worms is owing to their moulting, as a slight change takes place after each skin is cast off. Their duration in the larva state is six weeks, in which time they feed voraciously; they then spin their cocoons, and remain in the pupa state a longer or shorter time, according to the season of the year. The moths that remain in the pupa until the following spring, will be those whose larvæ will destroy the summer's crop. Should the fall and winter be favorable to the premature development of the moth, the planters may be grateful, as it will be their greatest safeguard, unless they will gather and destroy the pupa.

Mr. Affleck states that the caterpillars frequently spin on the old plants. Would it not be well to gather and burn all thus infested? In Harris' book on Insects, you find that "in some parts of France and Belgium, the people are required by law to *echeniller* or un-caterpillar their gardens and orchards, and are punished by fine if they neglect the duty. Although we have not been so prudent and public spirited as to enact similar regulations, we might find it to our advantage to offer a bounty for their destruction, and though we should pay for them by the quart as we do our berries, we should be gainers in the end."

Now, suppose we calculate by the rule of proportion, if the moth from one pupa will produce six hundred eggs, how many will those from a quart?

Turkeys are voracious eaters, and feed and fatten well on the tobacco worm, why not on those of the cotton plant? M.

To Boil Salt Meat Tender.—Put the meat over the fire in cold water, and never suffer it to boil faster than a gentle simmer, or it will be hard and tough. When done, beef will separate easily from the bones—ham and tongue from the skin. A large shovelful of wood ashes may be put into the water in which ham or smoked tongue is to be boiled, and some hay at the bottom of the pot. Allow a quarter of an hour for every pound of ham. For corned ribs or plate piece of beef, when well boiled, take the bones out carefully, and put it into good shape by wrapping about it neatly, all the fat and loose hanging pieces; then put it between two pieces of thick planks, kept for the purpose, and press it until perfectly cold, with a weight, say fifty-six. It makes large smooth slices when cut, and at breakfast or lunch it is positively delicious.



HALL'S BRICK-MAKING MACHINE.—FIG. 2.

HALL'S BRICK-MAKING MACHINE.

THE engraving given above, represents a machine for making bricks, invented by Mr. Alfred Hall, late of Coxsackie, New York, and patented by him in Great Britain as well as in the United States. Its construction is so perfect that five men and a horse can make, with ease, 8,000 bricks in a day, and place them on the drying-floor. It is coming into extensive use both in England and in this country, particularly in Rochester and Coxsackie, N. Y., and in Charlestown, Massachusetts.

No machines are sold except with a right to use them in a specified section, generally within the limits of a county; although exclusive rights for states or larger divisions are sold when wanted.

As the method of making bricks at the North is so very different from that practised at the South, it is advisable for Southern brick-makers to employ a man well skilled in the business from the North, to put them in operation, should they ever have occasion to purchase these machines.

We are authorized to fit up these machines expressly for the South, accompanied by a skilful agent to put them in order, who will be able to remain sufficiently long to instruct an ingenious and tractable person in the art of its use. The price of each machine, will be $250, including the right of the county in which it is to be put up, consisting of a grinding mill, with the moulding machine attached, a set of five moulds and five apartments, and a No. 40 copper-wire sieve, all complete.

To show the extent and value of its use, in one town, at least, we insert the following extract of a letter addressed to T. B Wakeman, Corresponding Secretary of the American Institute, from Messrs. Hubbell and Abbott, who have been engaged in the brick-making business for twenty years.

"This machine we have used for the last three years, to our entire satisfaction; it is simple in its construction, easily kept in order, and can be worked by men of the most ordinary capacity, moulding with ease, from ten to twelve thousand per day, better bricks than can be moulded by hand or any other machine. We have had thirty of them in operation for the last two years, using fifteen of them alternate days, making each year about 15,000,000 bricks, and during that time the expense of repairing the thirty machines has not amounted to $10. This is not an exaggerated statement, but the plain simple truth, such as we are willing to give in person to any one who wishes more particular information upon the subject, and will favor us with a call.

"P. HUBBELL.
"ALMON ABBOTT."

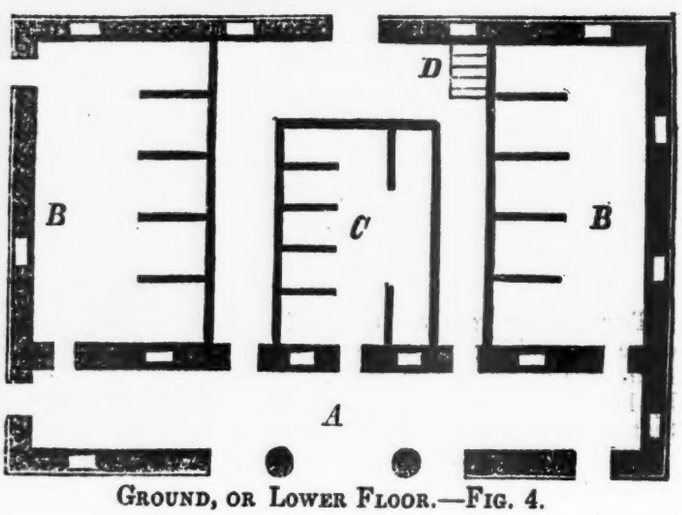
Charlestown, Mass., Dec. 9th, 1846.

A PENNSYLVANIA BARN.

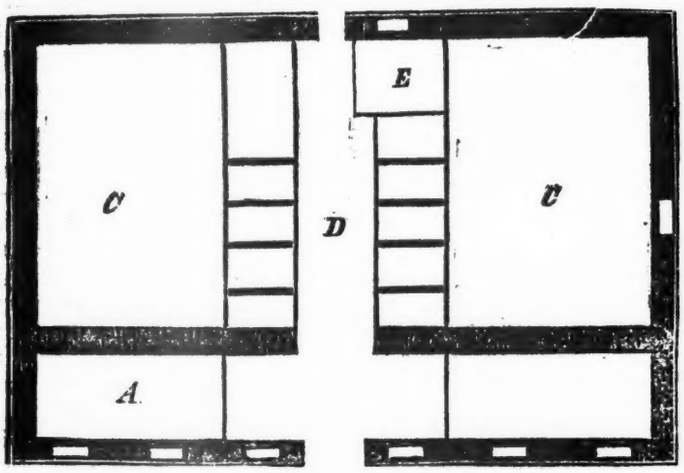
THE high degree of perfection which agriculture has attained in Pennsylvania, compared with some other portions of the Union, has been commented upon by travellers from Europe as well as from every section of our country. Perhaps there is no particular feature which more distinctly indicates that perfection than the farm-buildings, certainly there is nothing which more forcibly attracts the stranger's eye on entering within the bounds of that state, where he is at once assured that no niggardly regard to expenditure for useful purposes, influences a Pennsylvania farmer; though his own dwelling be of an unpretending character, the means for housing his crops and sheltering his flocks, are on an ample scale. Poor indeed would he judge that economy to be, which permitted a sheaf to suffer injury for want of adequate protection.

FRONT ELEVATION.—FIG. 3.

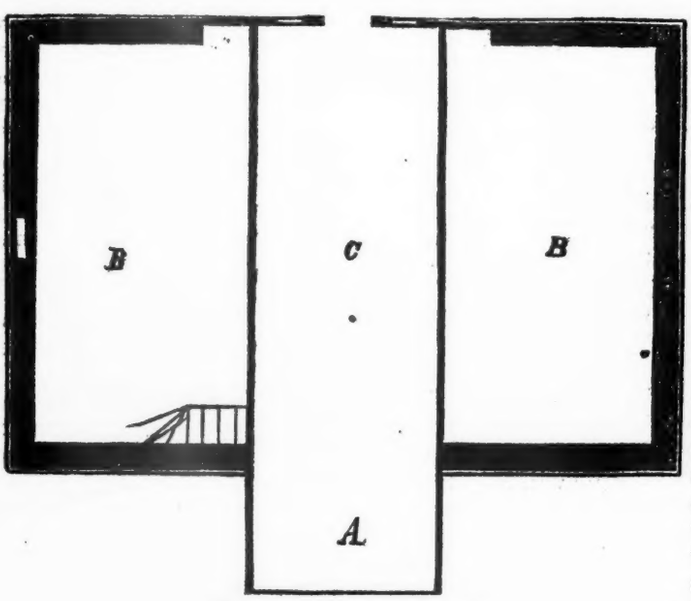
The subjoined drawings illustrate a barn of moderate size, but judicious construction, yielding as much advantage as it is possible to possess within the same space. Its dimensions are, 60 by 40 feet, with an elevation of 30 feet to the eaves. It is on the estate of James P. Hutchinson, Esq., Montgomery county, nine miles from Philadelphia. The barn-yard is supplied with water by Montgolfier's hydraulic ram, from a reservoir 900 feet distant; the supply is 800 gallons per day; the dwelling-house is also supplied by the same power (2,000 gallons per day). The elevation from the ram to the barn is 40 feet perpendicular height; these items are stated to show the great power of this



GROUND, OR LOWER FLOOR.—FIG. 4.



SECOND FLOOR.—FIG. 5.



THIRD FLOOR.—FIG. 6.

REAR ELEVATION.—FIG. 7.

simple and comparatively cheap invention. It is prepared by Mr. H. P. M. Birkinbine, of Philadelphia; to whom those interested can address themselves.

Fig. 3 exhibits a front view of the barn, the stable-doors opening into the barn-yard, in which there is a constant stream of water from the ram; the yard which is of sufficient space for cattle to take air in winter, and for other purposes, is flanked by sheds, &c., and substantially enclosed by a stone wall.

Fig. 4 represents the ground or lower floor; A, is the "overshot," 8 feet high; B B, horse stables; C, cow stables, 7 stalls; D, stairway to upper floor. There are besides ample passages and elbow-room for feeding, &c.

Fig. 5 is a plan of the second floor; 8 feet head-room; A, harness-room, 8 by 20 feet; B, tool-room, 8 by 20 feet; C C, hay-mows, each 20 by 26 feet; D, granary, divided into bins, with passage through the centre; E, stairway.

Fig. 6 represents the third floor; A, is the wagon-way or entrance, as shown in fig. 7; B B, upper part of the hay-mows (marked C C, on second floor); C, threshing-floor, 47 by 15 feet 8 inches.

Fig. 7 is a rear view, showing the wagon-drive and entrance to what appears as the third story or floor when viewing the building in front; it is reached by a gradual rise in the ground from front to rear, and by an artificial elevation of the soil as is shown in the passage between the abutments, so as to form a gradual ascent, easily surmounted by a heavily-laden wagon; on the apex of the roof are two ventilators which serve a double purpose, admitting light and permitting the escape of foul air. The whole building, is besides, thoroughly ventilated by doors and windows suitably placed. On the whole, we can safely commend this as an admirably constructed barn, and worthy of imitation. It will be perceived that by the arrangement adopted (now commonly followed), the hay and grain when unladen from the wagon, are cast down, rather than pitched upwards, an advantage of the greatest moment, at a season when time and help are of double value. The hay and fodder reach the feeding floor by means of funnels or conductors, which carry it to convenient points. The harness-room, and tool-room, should be on the first floor, the space occupied by them on the second, would be serviceable for other purposes.

A natural inquiry presents itself, the cost? That must of course depend on the expense of materials, the price of labor, and the proportion of work by hauling, quarrying stone, hewing timber, &c., which

the proprietor himself may be able to perform; also the kind of material for the superstructure, whether it be wood, stone, or brick. In view of all these circumstances, it is inexpedient to attempt a statement; the prudent farmer will obtain estimates of all particulars, carefully prepared by responsible mechanics, and any estimate of ours might tend rather to his injury than benefit. The barn of Mr. Hutchinson is of stone, rough-cast; one of less cost (and in one respect better, because dryer) would be of frame, on a basement of stone extending to the floor of the second story.

THE TREES OF AMERICA.

THE following letter was written in answer to some strictures which appeared in the October No. of the Horticulturist, on the Trees of America; but the editor, Mr. Downing, having thus far deferred publishing it in his periodical, Mr. Browne solicits a place for it in our columns.

New York, Oct. 15, 1846.

SIR:—In looking over the review of my work on the "Trees of America," in the October number of the Horticulturist, I observed several errors, probably caused by oversight, and one or two passages that would have a tendency to mislead the public, which you will oblige me by correcting.

After making comparative extracts from Loudon's Arboretum and my work, you state that "The character of nearly the whole volume is precisely similar to our quotation—that is to say, instead of using his own language to describe trees, their properties, characters, etc., Mr. BROWNE has paid Mr. LOUDON the compliment of using his, though he has omitted, in many cases, half or two-thirds of the matter given in the *Arboretum*." That "Mr. Loudon's name is scarcely mentioned in the body of the work, though the author acknowledges in the preface that he is 'particularly indebted to him.'" If you will attentively compare the "Sylva Americana," a portion of which is a translation of "L'Histoire des Arbres Forestiers de l'Amerique Septentrionale," with the "Arboretum," you will find that Mr. Loudon has often paid M. Michaux and myself the compliment of using our language instead of *his* own. And by further examining my last work, the "Trees of America," instead of finding "Mr. Loudon's name scarcely mentioned in the body of the work," you will discover that it is inserted more than one hundred times. All of us, who knew Mr. Loudon, can fully appreciate his talents, his industry, and the immense benefits he has conferred upon mankind by his works; yet there is much of the matter contained in his "Arboretum" that is erroneous, uninteresting, or ill adapted to the climate and modes of culture of the United States; and, besides, there are many important omissions in his work, which probably could not be given, for the want of information, that have been supplied by me.

You also state that you "find *two trees* described, which are not contained in Loudon's Arboretum, viz.:—*Bursera gummifera*, a native of the West Indies, and *Ilex paraguariensis*, a native of South America. Neither of them will grow in gardens in this country without protection." In justice to your readers as well as to the publishers and myself, could you not with propriety have informed them that there are at least *fifty trees* described in my work, which are not even mentioned by Mr. Loudon at all? Again, could you not, with equal justice and propriety, have told them that more than one-fourth of my work is devoted to edible fruits and nuts, which, for reasons best known to yourself, are scarcely mentioned in your review? Furthermore, do I not plainly state on p. 189, that Bursera gummifera is found in Florida, and particularize where the trees are still growing? And do I not assert, also, on p. 173, that Ilex paraguariensis is adapted to the middle and southern sections of the Union, and warmly recommend it to all who have proper conveniences for cultivating it?

You remark that you "do not know that Mr. BROWNE makes any pretension to being a *practical* arboriculturist. If he did, we should find great fault with him in many cases; for example, he does not tell us, while praising loudly the European Holly for hedges, and recommending its general use, the lamentable truth that it will not stand the winter of this climate under ordinary circumstances, north of Philadelphia." Here I beg leave to refer you to p. 163, where I explicitly state, that, owing to the severity of our climate, in winter, this tree appears not to have thrived north of the Potomac. Your complaint in regard to the pomegranate is equally ungrounded, as you will perceive in p. 340, that at Paris and Versailles, it will not bear exposure to the open air too early in the spring, which plainly indicates that it is not adapted to the colder regions of the United States.

After saying, as you do, that you welcome this contribution of mine, to the gardening literature of this country, with pleasure, that everything that will help to diffuse this information is well for our people, and that this volume conveys a great deal of information in a moderate compass, etc., I cannot conceive how you can so strongly recommend Loudon's "Trees and Shrubs," in preference to any other work of its kind, when it is well known that it contains much that is inapplicable to our climate, and is not suited to the taste and economy of our inhabitants.

I thank you for the suggestions which you have been pleased to make in regard to my future volume, and as far as my means will allow, no pains shall be spared to render this work all that you desire.

Respectfully, D. J. BROWNE.

To A. J. DOWNING, ESQ.

Since the above was written, a notice of my work has appeared in Silliman's Journal, said to be written by Professor GRAY, of Harvard University, who, it would seem from the notice, is of a contrary opinion to Mr. DOWNING, in regard to Loudon's work; but he cannot be considered as very "high authority," either in geography and history, or physiology and botany, in supposing that Florida is situated 500 miles from the point where Columbus first landed in America,—that persons who have long been at sea are not possessed with more acute organs of smell, and can even perceive the fragrance from the land at the distance of forty miles, or to be ignorant of the facts that the sassafras-tree formerly occurred in abundance, on the Bahama Islands, and never flowers in the month of October. D. J. B.

GRINDING CORN.

It has been truly said, that "No kind of grain is actually spoiled by grinding too fine, except Indian corn," although wheat is somewhat injured. But good corn bread, hommony, mush, and various other dishes cannot be made of flour ground too fine. For all ordinary purposes, the common mill employe l for grinding wheat, answers equally well for grinding maize. When it is required to grind the corn coarse, it is necessary only to elevate the uppermost stone and increase its speed; or to depress the stone and diminish its velocity to grind it fine In general, the grits, or larger parts of the meal, should vary from one-fourth the size of a grain of mustard to that of a grain of rice, according to the uses to which they are to be applied. For very exact and special kinds of meal the *Kibbling-mill* is preferable, in many respects, as the size and uniformity of the grits can be regulated at pleasure by an indifferent hand; whereas, in the common mill for grinding wheat, their degree of fineness or coarseness depends entirely on the judgment and skill of the miller by regulating the position and velocity of the uppermost stone, and a due attention to feeding in the grain.

A kibbling-mill consists of "a small iron cylinder, usually about 8 or 9 inches wide, and 6 inches in diameter, tapering slightly to one end, and fluted on the inside Within this a barrel of the same form, but of a less size, and fluted on the outside, revolves by the turning of a spindle on which it is fixed. The meal is rendered finer or coarser in proportion as the working barrel is set nearer to, or farther from, the small end. This mill is made entirely of iron and steel, and is usually attached to a post. It is provided with a hopper, and is worked by a crank fixed at one end of the spindle, while a fly-wheel revolves at the other. It is used for beans, peas, and other pulse; for malt and various kinds of grain, and is a very useful and ingenious contrivance, but requires care in its adjustment and general management." B.

THE STRAWBERRY QUESTION.

The letter of Wm. R. Prince, on the strawberry question, is clear and to the point, and will I trust aid in convincing Mr. Downing of his error, to which he has been led by his gardener, who appears to be a man of intelligence. He is, I presume from England; and it will be a difficult task to convince even the most intelligent European horticulturists, that their best botanists have a new lesson to learn from an illiterate German woman. There is one point, in which Mr. Prince will discover he is in error, after a further examination of what he calls plants of the *perfect* character. He says, "Plants of the perfect character sometimes produce a few of their earliest and latest blossoms so weak, as to be without *stamens*, or with very imperfect ones," &c. From this cause, he says a *few* of the blossoms fail to produce fruit. I deny the existence of any plant of the *perfect* character, that will on an average produce half a crop of large sized, perfect fruit. I now speak of the Scarlet and Hautbois varieties. Where the blossom is partially perfect in both organs, the blossoms that fail to produce perfect fruit, are owing to a defect not in the *male*, but in the *female* organs. If the defects were in the male organs, the pistils would find kind neighbors in the neighboring blossoms, to supply their wants. I wish he would furnish us with a list of his *perfect* plants. Would he follow Mr Downing, and name the Swainstone, Ross Phœnix, and some others, as of this class? I have given them all a thorough trial, and not one of them will average one-third of a crop of perfect fruit. The $500 I have offered for such a plant, is at Mr. Prince's service, as soon as he can produce it. I have raised thousands from seed, and generally, about one-half are wholly defective in the female organs. A few are partially perfect in both organs, say one in a hundred. But I have never raised one possessed of both organs, that would average one-third of a crop. Never one, worthy of cultivation for its fruit. I have never met with more than one variety, that separate from all others, will bear a full crop. It is the Duke of Kent. But a portion of the blossoms are defective in the male organs, and depend on the neighboring perfect blossoms. The fruit is small. If "weakness or exhaustion," would cause *perfect* blossoms, to bear no fruit, I would ask Mr. Prince, why it is, that the Hovey's Seedling, when fully exposed to the sun and air, with a staminate near, would not fail in one blossom out of a thousand, to bear a perfect fruit, unless killed by frost.

My Champagne vault and house are nearly finished, and I have four applicants who profess to be masters of the art of manufacturing Mosseaux wine. I only wait for their credentials, to make a selection, when the manufacture will be commenced. All will depend on the skill of the person selected, and I must not decide too hastily.

N. Longworth.

Cincinnati, Ohio, Dec. 10th, 1846.

EXPERIMENT OF MANURES ON CORN.

With this I send you the statement of my experiments with several different manures on Indian corn the past season. You may rely upon its having been carefully made; and the result may be considered as showing the value of each kind for this particular crop, after taking into consideration the peculiarities of soil and season. The first is a sandy loam, and probably requires ashes more than any other manure. The season was excessively wet, which may have favored the horse manure.

The quantities, as you will see, were not regulated by equal values; but as much of each was used as would be of service without the risk of injury. The planting was done on the 5th of May, as follows:—Hills, 3 ft. 9 inches apart, with 5 grains in each; for the horse manure the ground was slightly excavated for the hills, manure put in and covered, and the corn planted on the top of it; all the other manures, except the Ichaboe guano, were well mixed with the soil about the hills, care being taken not to let the grain come in contact with the guano or poudrette. The Ichaboe guano was not put on until July, when the corn presented a yellow and sickly appearance, whilst the others had a fine growth of twice the size—consequently its full value is not known; but its value applied in this way,

may be seen by comparison with that which had nothing. The corn was husked November 5th, and each parcel weighed; 74 pounds of the ears gave, when shelled, one bushel of corn weighing 60 lbs.

	Quantity per hill.	Quantity per acre.	Cost.		Expense of applying.	Lab'r & Seed.	Total expense.	Produce in lbs.	Prod. in bush.	Corn worth.	Stalks worth.	Total value.	Profit.
Horse Manure	2 1-2 quarts.	245 bushels.	70 cts.	per 14 bush.	$3.25	$10.12	$32.60	6,196	79 1-2	$59.62	$4.00	$63.62	$31.02
Ashes	1 pint.	48 1-2 bush.	$2.00	"	1.25	10.12	25.29	4,882	62 1-2	46.87	4.00	50.87	25.58
Peruvian Guano	1-6th of a pint.	303 lbs.	3 cts,	" lb.	0.50	10.12	26.71	4,492	57 1-2	43.02	4.00	47.02	20.31
Poudrette	1-2 pint.	24 bush. 6 qts.	$1.50	" bbl.	0.50	10.12	26.69	3,330	42 1-2	31.87	3.00	34.87	8.18
Hen-house Manure	1 pint.	48 1-2 bush.	15 cts.	" bush.	1.25	10.12	25.63	3,640	46 1-2	34.87	3.00	37.87	12.24
Ichaboe Guano	1-2 gill.	350 lbs.	2 cts.	" lb.	0.50	10.12	24.12	3,795	48 1-2	36.37	3.50	39.87	15.75
Urine						10.12	23.37	3,098	39 1-2	29.63	3.00	32.62	9.25
Nothing					1.25	10.12	17.12	2,478	31 1-2	23.62	2.50	26.12	9.00

All the manures are calculated as being on the ground, those having long distances to cart can easily regulate the difference accordingly as they are more or less bulky.

The corn is valued at 75 cents per bushel, with 5 per cent. deducted for shrinkage. The cobs pay for shelling in their value to me as *fire-wood*

Labor is reckoned at 75 cents per day for a man, and $1.75 for team.

The quantities given per hill are not exact, but as near as can well be ascertained.

To make up the total expense in the sixth column, $7 per acre is added for interest on the value of the land and taxes.

In an experiment I made last year, urine proved more valuable than horse manure, which I attribute to its being unusually dry that season. I mention this fact merely to show, that a difference of seasons—as well as difference of soil or climate—will invariably have a greater or less influence on our experiments; we should therefore be cautious how we draw *general* conclusions from even a series, much less a single experiment.

Oyster Bay, Long Island, Dec. 1st, 1846. DANIEL K. YOUNGS.

MORE FACTS ABOUT THE PAULOWNIA IMPERIALIS.

WE were among the first to introduce the Paulownia imperialis into this country, having received it the same year as the persons you refer to in your December number. We have gone, however, more extensively into its propagation, than others, and have now one plot containing 4,000 trees, 8 to 10 feet in height, and five older trees that will probably bloom the ensuing spring. We measured some leaves of extraordinary vigor, that were 32 inches in diameter; but, on older trees, the foliage is of much less dimensions. It is rather singular, that in a scientific description of this tree published in a Paris Horticultural work, the circumstance of its developing flower-buds in the autumn preceding their spring expansion, is commented upon *as a striking peculiarity*, when, in point of fact, this *peculiarity* applies to very many of the trees and shrubs introduced from the same region, and would almost seem to be a general characteristic of Japan and Chinese trees. We will instance the Camellia japonica, Magnolia obovata, gracilis, and conspicua, Cydonia japonica, and others. We feel well assured that the Paulownia is destined to become the pride of our avenues and lawns, and it will be extensively planted in the streets of our cities, as it not only imparts the most ample shade, but cheers us with its brilliant and enlivening display of flowers at the opening of spring. WM. R. PRINCE & Co.

Flushing, Long Island, December 15th, 1846.

SUSQUEHANNAH AGRICULTURAL SOCIETY.

A SHORT time ago, I received a newspaper from Montrose, a flourishing little town in the northern part of Pennsylvania, containing a spirited account of the proceedings of the Susquehannah County Agricultural Society; and their first Annual Fair and Cattle Show. This society is yet in its infancy, but it must and will succeed; for the leading members are reading and thinking men, of intelligence and education, and good practical farmers, yet willing to make experiments, and always ready to communicate the results for the benefit of their neighbors, either as examples or as warnings; and encouraging among themselves a noble emulation to achieve what others have succeeded in accomplishing.

Many premiums were awarded, which, after due acknowledgments, were returned as donations to the treasury, in consideration of the low state of the funds of the society; an example well worthy of imitation. There is a good spirit prevailing abroad among our farmers, throughout the length and breadth of our glorious land, encouraging a desire for improvement, and a growing willingness to be benefited by the experience of others, that proves the " march of mind" to be something more substantial than a philanthropic theory. The silly prejudice against what is sneeringly called book-farming, that has hung like a black cloud, obscuring our mental vision, is fast fading away before the light of knowledge, now so widely disseminated by the agricultural journals, that are finding their way steadily though slowly, to every fire-side—and with their pages stored with valuable information, and the questions of *intelligent ignorance*, on a thousand subjects inseparably connected with the farming interest—make the

chief reading of a large proportion of the people of the rural districts, far removed from our large cities, whence they emanate.

That the thirst for knowledge, and the spirit of inquiry once fairly awakened, will not soon be lulled to rest, needs no other proof than is evident in the rapidly increasing number of agricultural and horticultural societies, that are already established or proposed, and nearly ready to be put in active operation in places where but a few years ago, the idea, if it ever entered the aspiring mind of some enterprising man, was hopelessly laid aside as soon as formed, as if it were a dream of Utopia—or, if some visionary enthusiast ventured in a moment of unguarded confidence, to whisper his hopes of such a scheme being realized, the sneering laugh soon obliged him to acknowledge there was no reasonable prospect of its accomplishment. Among these unbelievers were men who are now arousing from the sleep of ages—men who have hitherto opposed "innovations"—whose progress in the arts and improvements of farming has been "a caution to a snail,"—whose only answer to the strongest recommendation of a better plow, or new labor-saving machine was, "the old kind was good enough for my father, and it is good enough for me." These men are now standing on their feet, more than half awake; *taking* and *reading* some Farmer's Journal, and talking and bustling about getting up an Agricultural Society. Success attend them!

AMERICANUS.

BRITISH AND IRISH FLAX CULTURE.—No. 3.

Pulling.—When the plant is arrived at its growth, and is in full blossom, which in common seasons will be about the beginning of July (a few weeks later in the northern parts of the United States), it is fit to be pulled, if the grower has a greater regard to the produce of the stalk than to the seed. However, it is a common practice to injure the whole crop for the sake of the seed; and to let it remain till the seed begins to ripen, so as to have both flax and seed. In this case the land suffers greatly, for flax seeded is a great impoverisher; but if pulled whilst in blossom, is an excellent preparative for turnips, which should always follow a flax crop instead of wheat. The great reason why the Irish, and, indeed, most foreign flax, is finer than the English, is because they pull it early, and sow particular spots purposely for seed.

In order to determine when the flax is ready for pulling, try it every day, when approaching to maturity, by cutting the *ripest* capsule, on an average stock, across (horizontally), and when the seeds have changed from the white milky substance, which they first show, to a greenish color, pretty firm, then is the time to pull. The old prejudice, in favor of *much* ripening, is most injurious, even as regards quantity; and the usual test of the stalk stripping at the root, and turning yellow, should not be depended on. Where there is one man that pulls too green, five hundred over-ripen.

In some parts of Ireland, where flax is raised for cambric and fine lawn, the lint is pulled as soon as the seed is formed, or a few days after it is out of bloom, before the stalks begin to turn yellow. If any be coarser than the rest it is kept separate. Every handful, when pulled, is laid upon brush-wood, previously adjusted in the field, a little above the ground, by means of forked sticks and poles, where it is suffered to remain for four or five hours to dry, if the weather be fine. It is then put into a barn at night, and spread out during four or five days, taking care that it get no rain, which would cause it to turn black. If it get wet, it is better to leave it on the grass till dry, than to house it while wet. Each bundle is either opened when in the barn, or made very loose, in order to prevent it from heating.

It may be further observed, that although it is of much importance, yet it very seldom happens that much attention is bestowed to separate the different sorts of flax from each other, in pulling the crops. In most fields there are varieties of soils; of course, some parts of a field will produce fine flax, others coarse; some long and some short; in a word, crops of different lengths and qualities. It cannot be supposed that all these sorts of flax will undergo an equal degree of watering, grassing, breaking, and heckling, without sustaining great injury. Therefore, when flax of various qualities is promiscuously mixed together in pulling, it is impossible to prevent some part of it from being lost in the after-management; a loss which might be avoided with a small share of attention and some additional trouble when the crop is pulled.—*Condensed from Warnes' Treatise.*

RECIPE FOR COLORING GREEN.—For ten or twelve pounds of the material you wish to color, take one ounce of indigo and one pound of oil of vitriol, stirring it for half an hour in an earthen vessel—let it stand twenty-four hours. Make a strong decoction of equal parts, of the bark of hickory and black oak, with water enough to wet ten or twelve pounds of material to be colored; to this add one pound of alum, and strain it through a thick bag; place it over the fire, and when nearly boiling, add the liquid blue, then let it stand twenty minutes, and strain it well. Should any sediment remain, another straining will be necessary—then put in your yarn dry, stir it for a few minutes over the fire, and after ten minutes airing, rinse it well in cold water. The stronger the yellow dye, the darker will be the green.

ESTIMATION OF AGRICULTURE BY THE ANCIENTS.—Agriculture, says Socrates, is an employment the most worthy the application of man, the most ancient and the most suitable to his nature; it is the common nurse of all persons, in every age and condition of life; it is the source of health, strength, plenty, and riches; and of a thousand sober delights and honest pleasures. It is the mistress and school of sobriety, temperance, justice, religion, and, in short, of all virtues, civil and military.

ASHES TEA, prescribed by Dr. Physic for indigestion, one wine-glassful to be taken a quarter of an hour after dinner. Put a quart of sifted hickory ashes and a tea-cupful of soot into a jug, and pour a gallon of cold water on them. Stir the mixture frequently for three days, and then let it stand until perfectly clear; then bottle and cork it tight.

SHOW OF THE QUEENS COUNTY AGRICULTURAL SOCIETY.

The article under this head, vol. 5, p. 333 of the Agriculturist, after noticing in very complimentary terms the *Temple of Flora*, erected in the centre of the tent appropriated to the exhibition of fruits, flowers, &c., states "it was the handiwork of the ladies of Flushing, and did them great credit;" and that "thousands of choice flowers were culled to adorn the temple, principally from the gardens of Messrs. Winter & Co.; but Flushing is a town of flowers, and many of the private gardens contributed to form the temple and the pretty pyramids and bouquets which surrounded it." On that, as on all previous similar occasions, the ladies of Flushing rendered most efficient service, and exhibited their taste and skill in the general decoration of the place of exhibition, towards which many of the private gardens liberally contributed; but the Temple of Flora so flatteringly noticed, was designed by ourselves, and erected under our supervision *exclusively by the workmen in our employ;* and *every* flower used in its decoration, including those comprised in the sixteen large bouquets which surrounded the dome, was culled from our own premises, the ancient and well-known Linnæan Botanic Garden and Nursery of the late William Prince. The Temple, which was probably the largest, and in labor and materials the most expensive, single floral ornament ever exhibited on a similar occasion, (being about 26 feet in circumference and 18 feet high), together with a very large additional supply of flowers, we contributed towards the general decoration of the place of exhibition; and further contributed, as exhibitors, several stands of flowers, and two masses of pyramids, each from 4 to 5 feet high, comprising in the whole several hundred varieties.

WINTER & Co.

Flushing, L. I., Nov. 16th, 1846.

CULTIVATION OF FRUIT-TREES.

A Correspondent in your January number vol. 5, cautions gardeners against transplanting trees while the sap is in circulation, as it cannot then be done without the risk of injuring them seriously. Allow me to ask a few plain questions on this, and kindred subjects of equal importance connected with the cultivation of fruit-trees, which is much less studied or understood than it ought to be, even by those who profess it, and make the fruit a means of profit.

Are deciduous trees, or those which lose their leaves annually, moved more successfully in autumn or spring? and why? How are ignorant cultivators to know when a tree or shrub is in a proper state to be moved without damage?

What season is best for transplanting evergreen trees? (*a*)

Should the roots of trees ever be trimmed, as is the practice of many gardeners, unless where they are broken, or bruised in taking out of the ground? (*b*)

Should trees be *headed down*, or trimmed at all, when they are first removed, or is it best to wait until they have rooted well? (*c*)

Is it best to trim trees and hedges in spring, or in autumn? and why? (*d*)

I have been told that experienced nurserymen remove evergreens two or even three times before they are placed where they are to remain permanently. Is this a good practice, and what is the philosophy of it? (*e*)

Is there any method known by which trees can be prevented from throwing up suckers—whereby we can be spared the torment of having borders, walks, and grass-plots, disfigured by these pests, spoiling their beauty, and never allowing us to rest from our labors? (*f*)

I have heard it asserted, that when an apple or pear tree does not bear well it can be made to do so by digging around it, two or three feet from the trunk of the tree, and cutting off the ends of all the horizontal roots. Is this a well ascertained fact? (*g*)

What kind of manure is best for apple, pear, and plum trees, and the best time and manner of applying it? (*h*)

Is it true that a barren tree may be made fruitful by cutting a ring of bark two or three inches wide, entirely out? Has it any good effect, and if so, how, and at what season should the operation be performed? (*i*)

I had best stop now, for I came fearfully near asking a question about the management of peach trees! "Heaven bless the mark!" I shall be careful of broaching a subject so prolific of disputes, whether it is of peaches or not. It is a sore one to me, for I have had some little experience in them, and in the vile *varmints* that infest their roots, and the equally unmanageable *yellows* that attack the branches Being a very humble-minded man, and well knowing that I was ignorant of every mode of treatment likely to succeed, I took everybody's advice, and, as may be anticipated, killed them all—and out of pure kindness too. I do not like to speak ill of any one—and therefore say no more—but I have taken a final leave of the whole—trees, worms, and yellows, together, and buy my peaches.

An Amateur.

(*a*) Much has been written respecting the proper season for transplanting trees—summer and autumn for evergreens, and spring or mild weather in winter for deciduous trees. The principle which justifies these practices, is, that all plants whatever, with few exceptions, are most safely removed when they are in a comparatively dormant state, and when the weather is temperate, and the air moist and still, rather than dry and in motion. As it is known that the greatest degree of torpidity in any plant exists a short time before it begins to grow or push out shoots, late in winter or early in spring, is regarded as the best time for transplanting. The chief difference to be regarded between evergreens and deciduous trees, is that, from the circumstance of the former being at no time, whatever, in a completely dormant state, they may be removed at any time, in winter, spring, or autumn, when the weather will least affect their fibrous roots and leaves by evaporation.

(*b*) Whenever a tree has a tendency to run too much to branches, pruning at the roots may be advantageously performed, as the size and symmetry of its head may be preserved without mutilating or destroying a favorite branch. Besides, another advantage may sometimes be derived by skilfully wounding the roots in order to provoke young

fibres to appear, which will give increased vigor and activity to the tree.

(*c*) In a moist climate, young trees, in general, which have been two or three times transplanted in the nurseries, may be removed to their final situations, without heading down; but in a hot, arid climate, attended with a consequent and increased evaporation from the leaves, they are more liable to be killed, when transplanted with all their branches on. In heading down a tree, particularly if it be large, a corresponding advantage may be derived by trimming off a portion of the roots. The branches should not be cut off close to the main forks, or the stem, but should be left a foot or more in length, on old trees, and sufficiently long on young ones, to contain three or four eyes, and in both cases they should be cut off in an oblique or slanting direction. If the climate be dry, water should be regularly supplied to the roots of the trees during the first summer in order to make them grow more freely; but afterwards, very little attention will be required, except to encourage the leading shoots, and shorten in the lateral branches, if necessary, so as to encourage the tree to assume the desired form.

(*d*) The proper season for pruning most kinds of deciduous-leaved trees is about midsummer, or about the time the downward motion of the sap commences, and when a more perfect cicatrization or healing over of the wounded parts take place, than when pruned in fall, winter, or spring. The best time, however, for pruning plums, peaches, and other stone fruits, is considered to be somewhat later, or just before the shedding of their leaves.

(*e*) Evergreens, as well as many other trees, are more successfully removed by leaving a ball of earth about their roots; and by frequently exciting or carefully bruising their roots, either when standing, or by removal, new fibres will shoot out, and consequently afford an increased activity to the branches and trunk.

(*f*) If the roots of seedling trees of almost any kind are kept free from bruises or mutilation, they seldom throw up shoots or suckers; but trees which have been propagated by cuttings, and even in some instances by layers, are very liable to throw up sprouts for a considerable distance around, particularly when provoked by the spade or plow. We know of no better remedy for the springing up of these shoots, than to pare them off close to the roots in the month of August, at which time the wound may heal, and prevent others from springing forth.

(*g*) It is a fact—Or a hole bored through the trunk of the tree a little above the ground, with an auger, and stopped up with cement or a plug, is said to produce the same effect.

(*h*) A thick dressing of well-mixed compost of marl, newly-slacked lime, ashes, peat, turf, or leaf mould, or a light dressing of barn-yard manure, mixed with wood-ashes, gypsum, or charcoal, or a sprinkling of guano, laid around the trees in the spring, and shortly after dug in with a fork or spade, will greatly increase the vigor and healthfulness of fruit-trees, and cause them to bear most abundantly. Within the past few years, much light has been thrown upon the adaptation of soils to particular plants, and it is now regarded as an established fact, that the apple-tree, as well as most, if not all other rosaceous trees, requires alkaline, and probably earthy bases, as an indispensable condition to the perfection of their fruit. It has also been shown by several enlightened chemists, that the acids generated in plants are always in union with alkaline or earthy bases, and cannot be produced without their presence; that all deciduous trees require a considerable portion of potash for the elaboration of the juices in their leaves, and that they are prosperous or otherwise, in proportion to the scarcity or abundance of that substance in the soil. Furthermore, it is well known that all clays contain potash, and that marls are principally composed of clay and carbonate of lime, and also contain potash, besides sulphate and phosphate of lime. Hence the presence of alkaline and earthy bases, particularly potash and lime, affords a satisfactory solution of the adaptation of marl or marly soils, or the application of the composts named above, to the production of apples, and probably to many other kinds of fruit.

(*i*) This is true with young trees, and we know of no reason why it should not prove so with older ones. At any time within the month of May or June, or soon after the leaves put forth, select a horizontal branch of the tree designed to be rendered fruitful, and remove from the part near its junction with the trunk, a ring of bark from one-fourth to one-half of an inch in breadth, but not three inches, as indicated in the question, taking precaution, at the same time, to rub off, within the space operated upon, *every part* of the bark, quite to the sap-wood, in order to obstruct the descending juices in the succeeding autumn. Another expedient resorted to, for the same purpose, is, to make two turns of a copper wire closely round the bark, with a repetition of the operation at some distance below, and leave it to become incorporated by the growth of the tree. Should either of these devices prove insufficient, or should the healing of the wounded parts follow too quickly, the operation may be repeated in the same, or in the following season. The total removal of a ring of bark produces the desired effect, sooner, by a whole year, than a mere stricture upon it, although the pressure of the wire, of itself, finally kills the bark underneath. Alkaline, or ammoniacal preparations, have also been applied to young trees, as well as to old ones, for the purpose of stimulating their growth, and accelerating their fruitfulness, such as white-washing their trunks and branches, rubbing them with soap-suds, and spreading around their roots lime, gypsum, charcoal, ashes, &c. For further particulars, see Browne's Trees of America, pp. 165, 247, 303, 309, 310, 315.

White China-Geese.—In the year 1817, I saw a flock of beautiful white China-geese, in Jefferson county, Virginia, five miles south of Charlestown, at the house of a Pennsylvanian farmer, who had removed there a few years before. They were *perfect* China-geese in shape, bill, feet, &c., with the protuberance on the upper bill, and a golden ring round the eye. The eye was a jet black, the bill and legs a bright orange-color. The plumage was

snowy white, without a colored feather of any kind. They were the most beautiful geese I ever saw, and I shall be glad if any of your readers can inform me now where they are to be had, as I wish to procure some. A TRAVELLER.

ALDERNEY COWS.

IN reading the various articles in the Agriculturist, on the different breeds of cattle, I have thought that the little that has been said about Alderney cows was not so complimentary to that breed as they deserve. I send you, therefore, a few short notes taken when I was in the island of Jersey, on the coast of Normandy, where the dairy is principally attended to, as well as in Alderney and Guernsey.

Some gentlemen have not thought the Alderney cow handsome; but in truth, she is the *handsomest of cows for the dairy*, although she may not fill the eye like a thorough-bred Durham, in good condition, so much esteemed by every experienced dairyman; yet there are thousands of families who want one or two cows, rich in milk and butter, mild, gentle, and intelligent, on excellent terms with the milk-maid, and the Alderney, of all others, is *the cow*. She is well adapted for the lady of a snug rural mansion, and all dairymen would find it to their interest to keep two pure Alderneys to every twelve cows, the advantages of which are well understood in some parts of Scotland, and perhaps a dairy of twenty well-chosen animals of this breed would compete with any twenty cows in the United States, when butter of superior quality fetches a good price. In short, the finest specimen of an Alderney is a true emblem of a milch cow, and any person keeping this breed merely for the dairy, who once gets one, feeds and treats her properly, will never be without one.

A good Alderney cow in Jersey, is expected to yield 7 lbs. of butter a week, and many have been known to produce double that quantity for a short period. Some give from 16 to 18 quarts of milk per day, during the months of May and June; and I was told of numerous instances of cows which yielded from 10 to 14 lbs. of butter each, in a week. Major Barns, the Governor, informed me that he had a cow which gave 25 quarts of milk a day; but ordinary cows did not average more than 10 quarts a day, yielding 7 lbs. of butter, each, in a week. It was stated, that, in summer, 9 or 10 quarts of milk would produce a pound of butter, and, in winter, when the cows are parsnip-fed, the same quantity of butter may be obtained from 7 quarts. The general average yield of each cow, old and young, is rather more than 365 lbs. of butter in a year, or about 8 quarts of milk per day. (*a*)

The cows there, are universally tethered, and are moved, watered, and milked, three times a day. They are fed principally on lucern, or clover, but the quality of their butter is never considered so good, when thus fed, as when they range on a natural pasture.

The milk, when strained, stands at about 10 inches deep in the vessel, till the cream has all risen, which usually occupies three days in summer; and in winter, in order to hasten its rising, the vessels are covered, and placed on the hearth at bed-time. Consequently, skimming is never performed but once, and then not before the milk has become coagulated or turned sour. In the operation of skimming, the cream is first detached from the edge of the vessel all round, and then is raised up together, as much as possible, and by inclining the whole mass over the vessel intended to receive the cream, the latter will sometimes slip off at once from the coagulated milk. At the bottom of the vessel there is a small hole stopped with a peg, which is occasionally withdrawn, in order to drain off the serous or watery portion of the milk, and thereby separate it from the cream. CATO.

Missouri, Oct. 19th, 1846.

(*a*) In the last Guernsey Agricultural Report, is an account of a cow of Sir W. Collings, which gave from her first calving, in July, 1843, to July, 1845, 804 lbs. of butter; while others have been ascertained to give, for a few months, 16 and 17 lbs. a week. A fraudulent trade, it is said, has lately been practised in England, in importing the Brittany breed, and passing them off for Guernsey cattle, which they somewhat resemble in shape, but are totally different in dairy qualities. Their milk is thin and blue, while that of the Alderney or Guernsey breed is rich and yellow.

HAVRE BLUE POTATOES.

As there appears to be a prejudice against a variety of black potatoe, that I have cultivated successfully for several years, in consequence of the appearance of the purple streaks in the interior, when cut, I beg leave to make the following statements:—

Last spring I procured some superior eastern mercer and shaker potatoes of the best quality, for planting, in the same field with the black ones. The culture of each was similar, as respects manure and tillage. The white varieties suffered so much by the prevailing disease, as not to defray the expense of digging, while the black potatoes (the latest), with very slight exception, were free from any appearance of blight, the yield being good, and quality excellent. I had some of each sort cooked, precisely in the same manner, for the table. The black ones had a decided preference for their superior quality and flavor. They keep well until the appearance of a new crop.

As my potatoes with the blue streaks were imported from Havre in the year 1841, I think "Havre Blues" a more appropriate name for them than black potatoes. J. H. BEALE.

New York, 10 *mo.*, 3*d*, 1846.

TO MAKE THE BEST STICKING PLASTER.—To one pound of resin, melted, and while on the fire, add one wine-glassful of bole Armeniac, rubbed fine, one ditto Venice turpentine, and a lump of sheep's suet, the size of a walnut (without the hull); stir well, when thoroughly heated and mixed, pour into an open-mouthed jar, and stir till cold.

ROTTEN stone and turpentine, or gin, rubbed on with a clean cloth, gives a fine polish to brass.

Ladies' Department.

NATURAL HISTORY OF THE CHINCHE.

Old Lady's Diary.—Whilst travelling this summer, my attention was frequently called to the subject of bed-bugs (*Cimex lectularius*), and as often astonished at the general ignorance on the subject of their natural history, and the best means of ridding chambers of the disgusting torment, I naturally turned to the pages of my Diary, from which I extract the following for the benefit of housekeepers on the highways.

Nov. 1st.—I have spent this day in rummaging over all the volumes treating on Entomology within my reach, in search of the true history of the bed-bug, and by comparing their various accounts with my notes taken at different dates, am enabled to compile the following history:—Bed-bugs, like other insects, undergo three changes, but they retain nearly the same form in all their stages; for the only transformation to which they are subject, from the young to the adult state, is occasioned by the gradual development of their wing-covers and wings (technically so called), and the growth of their bodies, which makes it necessary for them repeatedly to throw off their skins, to allow of their increase of size. They are eleven weeks in arriving at maturity. Young, half-grown, and mature, all live in the same way, and all are equally active. Their wings are extremely small, and appear like minute scales on either side, without any apparent use. The eggs of these insects are white, and of an oval form, slightly narrowed at one end, and terminated by a cap which breaks off when the young escape. The latter are very small, white, and transparent, so that the blood can be seen through the body. In this state their heads are much broader than when mature. The female deposits her eggs in unmolested places such as cracks in the wall, and the joints of bedsteads, where they remain in a longer or shorter time, according to the temperature of the weather. In a favorable season, eight or ten days are sufficient to hatch them, but if in a cold place they will remain all winter unhatched. They live a whole year, and during winter hide themselves in secret cracks, as near their food as possible; and are recalled to life and activity by returning warmth.

Naturalists agree in their being natives of American pine forests, and it is said they feed on the sap of that wood; it is certain that they swarm in deal timber employed in building houses. Swallows, pigeons, and bats, are infested with them, as well as two or three species of bugs that more particularly belong to them. It is believed by many that they will feed on each other, when pressed by hunger, but this mistake arises from their cast-off skins being found in such numbers.

It is an interesting and curious fact that they were not known in England until about the year 1503, when, it is recorded by Mouffet, that two noblemen were so alarmed by the appearance of bug bites upon them, that they sent for a physician, believing they had symptoms of the plague; but their fears were turned to mirth and laughter, when shown the living cause of their distress. Disgusting and troublesome as they are, they appear to have created more alarm than mischief in England on their first appearance, as their name implies; their original name, says Kirby, "was *chinche*, or wall-louse, and the term *bug*, which is a Celtic word, signifying a ghost or goblin, was applied to them after Ray's time, most probably because they were considered terrors by night." [It is said that these insects will not survive in the climate of Ireland.] Boiling water is the best and cleanest remedy, as it not only kills all that it touches, both insect and egg, but assists in hatching the eggs that are sufficiently near to be affected by the heat; these in their turn may be killed by a second application, which purifies the infested places. When the bedsteads are thoroughly cleansed with boiling water, mercurial ointment, corrosive sublimate, or common bar soap, placed in their haunts, will prevent their return. Should the walls of the rooms be infested, pieces of white rag dipped in whitewash and carefully plastered over the holes and cracks, will effectually prevent their escape; this, too, is a good method of covering cracks and breaks in plastered walls, and a coat of white-wash over the cloth, will conceal both cloth and crack. Should a room be hopelessly infested with bugs, remove the furniture, and fumigate for one or two days with brimstone; this has proved effectual when all other remedies have failed. Fall cleaning, scalding, and whitewashing, is highly desirable, as it kills the mother bugs before they retire for the winter. Fall whitewashing is to be recommended on many accounts, the lime being not only a great beautifier, but it is equally a purifier, and destroys the whole army of household pests, such as bugs, spiders, moths, slugs, and flies, that are equally tormenting and disgusting.

How to Cleanse Furniture.—Oil rubbed over varnish, when discolored by water, will restore the color and polish. I must remember to tell this to Betsey, as she scolds terribly at the hot water spoiling the varnished bedsteads; if the oil don't succeed, a little varnish will, but the hot water must be used. Betsey and I have had a long talk about the best method of cleaning furniture, and the following recipes are decided on as the best. Varnished furniture should be nicely washed with warm soap-suds on a very soft cloth, and wiped perfectly dry with a fine soft towel; and then polished with a little sweet oil, rubbed on and carefully wiped off again with a silk handkerchief. Mahogany furniture must be kept perfectly clean, or it bespeaks bad housekeeping. Should it become mouldy or otherwise soiled, wash it clean with warm soap and water, then polish by rubbing on a paste made of equal parts of beeswax, soft soap, and spirits of turpentine melted together; when this is well rubbed in, spread on a thin coat of hard beeswax, let this be thoroughly rubbed in with a hard brush, and then polish with a silk handkerchief.

To take Spots from Leather Gloves.—Suspend them in a jar over the strongest liquid ammonia (hartshorn). The fumes alone will remove the spots; be very careful not to let the liquid touch the gloves, or it will leave a mark even more unsightly than the spot it has removed.

SUNDRY ITEMS.

Preservation of Meat by Freezing.—Everybody knows, or ought to know, that meat will keep perfectly sweet so long as it remains frozen. Witness, for example, the mammoth which was found some years ago in the north of Siberia, preserved by the eternal frosts of the arctic circle, from the time it was enclosed in the ice, after the deluge—a whole carcase covered with skin and flesh; some of which was cooked and *eaten* by the enterprising discoverer, and found to be palatable. But everybody does not know that their meat will be tender or tough, according to the method of thawing it.

If frozen meat is brought into a warm room, and thawed by *heat*—if you have not good teeth, and the digestive powers of an ostrich, you had best leave that part of the dinner for those who have. Therefore, bring from the larder, the night before it is wanted, the meat or poultry intended for dinner, and plunge it into cold water. The next morning, a thick coating of ice will be found encrusting the whole piece. Take it off, and change the water, and let it remain until the hour for dressing it. If to be boiled, put it over the fire in cold water—if for a roast, put it not before too brisk a fire, as there is always danger that the heart of a large piece may not be completely thawed, in which case it will be spoiled.

Vegetables should be thawed in the same way, and, with few exceptions, they will be better for having been frozen. Potatoes, however, acquire a disagreeable sweetness.

How to Restore Frozen Plants.—If you have ever had the misfortune to find your parlor window favorites frozen stiff when you paid your devoirs to them in the morning, you will appreciate and thank an unknown friend for the following recipe for preserving tender plants from the effects of frost; and restoring them after they have been frozen. Before you allow them to feel the effects of fire—plunge the whole, or as much of the frozen plant as is practicable, into cold water, and keep it under until it has thawed, which will easily be known by its becoming flaccid—then place it where it will warm gradually, as sudden heat will cause it to die. So treated, the most hardy will recover immediately—others will lose their leaves, or even die down to the ground—and some are so tender that the slightest frost will kill them; but generally they will put forth with fresh vigor after a season of rest, and gratefully repay your care. Water sparingly, until the leaf-buds are well grown, increasing the quantity when they expand.

How to Revive Cut Flowers.—When cut flowers begin to wither, they can be revived by placing the stems an inch or more, according to their length, in *hot* water; if it cools before they recover, change it once or twice, and you will surely succeed. This method I constantly practise with bouquets of favorite flowers in winter, and with wild plants for botanical specimens in summer, and always successfully, except where, like the rose and a few others, the flower naturally is short-lived, and falls to pieces as soon as it feels the effects of heated air.

Season for obtaining Cuttings.—January is perhaps the best time to take cuttings of myrtles and other hard-wooded plants—at least they strike root very readily at that season, and many a beautiful and rare exotic have I raised from the stems of my bouquets, after they have adorned the parlor table for several days, or bloomed for more than one night amid the curls of some fair girl, only less lovely than the flowers she wore. Geraniums, and many other soft-stemmed plants strike root easily at any season. Some, as oleanders, require no earth, and may be raised very readily by plunging the stems in a bottle of spring or rain water, and hanging the bottle where it will have light and air, ut not much *hot* sun. E. S.

Eutawah.

Boys' Department.

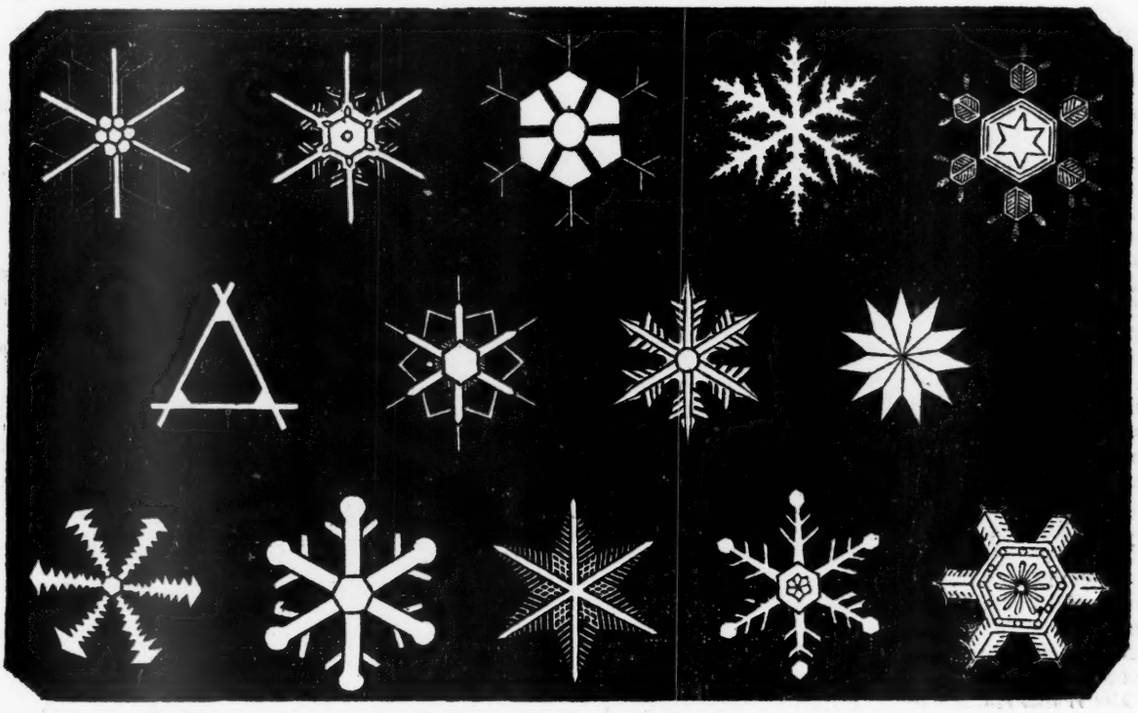
SNOW—ITS WONDERS AND USES.

Council of the Young Naturalists.—"How beautiful and dazzling is the snow in the sunshine!" said Frank Dorsey, of Georgia, on his first winter visit to the North. "Why is it opaque and white, cousin George, instead of being clear and colorless like ice? Is there any difference in their formation? If so, be pleased to describe it, with such other phenomena as have come under your notice."

"I believe there is no difference," replied George, "in the form of the spiculæ or fine frosty needles, of which the two are composed, except that those of snow, perhaps, become eight times more expanded than those of ice. Snow, you are aware, is formed by a process of regular crystallization by the union of a great number of minute frozen particles of water floating in mid air, which collect together in their descent, and before they reach the surface of the earth, are converted into flakes. When clouds are formed at an elevation where the temperature is below 32°F., the particles of moisture become congealed and fall down in the form of snow or hail. It often happens, however, that the temperature of the lower regions of the atmosphere is somewhat higher than the freezing point, and the snow again dissolves before it reaches the earth. The reason of the opacity and whiteness of snow, is, that the icy spiculæ of which it is composed, in falling, rest in every possible angle, and reflect the light in as many directions. If you take a single crystal of snow, you will see that it is perfectly transparent; and if all its particles rested on each other in parallel lines, the whole mass would be as clear as a like quantity of ice."

"You speak of crystals," said Frank,—"Am I to understand that water, in freezing, is crystallized in a similar manner as alum or salt, in passing from a fluid to a solid state?"

"Yes," answered George; "all crystallizing substances shoot out needles or points at determinate angles, which never vary in the same substance, but have an almost infinite variety in different materials. This property, you may recollect, in crystallography, is called the angle of crystallization. In the freezing of water, these spiculæ, as far as known, are uniformly joined at angles of 30°, 60°, 120°, and 150°. They usually consist of flat, transparent stars, with six radial points, subtending angles of exactly 60° or 120°, displaying an endless



CRYSTALS OF SNOW.—FIG. 8.

variety of shape, as if produced by a kaleidoscope, a beauty and regularity that is as little seen or suspected by people in general, as if they had no existence. By inspecting the diagram I now present you, on which are denoted some magnified crystals of snow, drawn after nature, you will perceive some of them are simple, while others are compound, and that wherever the spiculæ are attached, whether large or small, they bear an unvarying relation to each other; although some parts may appear round to the eye, on close examination they will be found to consist of very short right lines. The structure of a compound crystal of snow, demonstrates that a drop of rain is also formed by the union of a great number of smaller parts."

"Oh! how beautiful!" exclaimed Frank. "How wonderful are the works of Nature! It must be a pleasing study to observe and delineate the various forms of the crystals of snow."

"Oh, yes!" said George; "but it is attended with some difficulty, as they can only be examined in the open air; for they are so evanescent in their nature, that the slightest elevation of temperature above the freezing point, instantly destroys them. Even out of doors, unless the weather be very cold, the close proximity to the eye, to which they must be brought for microscopic examination, is sufficient to obliterate their form. If there is a current of mild air through which they pass, they become soft and adhere to each other, making those shapeless masses which are called flakes. If there is any wind, they are blown into minute fragments, forming fine snow. The crystals should be received on a dark substance, as the sleeve of your coat, to display them properly, and even at best they rarely exceed an eighth of an inch in diameter, which is sufficient to cause them to be overlooked, except by those who are accustomed to pry into the minutiæ of creation."

"I should now like to be informed," said Frank, "what are the principal uses of snow."

"One of the chief uses of snow," answered George," "is to screen plants and herbage from winter's chilling blasts. For snow, from its lightness, is a poor conductor of heat, which does not readily pass through it, or into it, from contiguous bodies. There is an old and true saying, which I have often heard our grandfather repeat, that, 'In northern countries, snow is sent by Providence as a great coat to the earth.' The great scene of Nature's operations, during winter, is below the surface of the ground, where she is preparing the germs and roots about to shoot forth,—elaborating juices and consolidating parts previous to the active vegetation of spring. But, were the ground to be left bare, in cold climates, it would be hard frozen to a considerable depth, vegetable life would either be suspended or destroyed, and the spring would be far advanced before the earth could be thawed. Hence, to prevent these ill effects, a soft and warm covering of snow has been provided to prevent the internal warmth of the earth from being carried off, the offspring of the very cold, which is to be guarded against, thereby making the evil work its own remedy. The plants being thus sheltered, shoot forth with renewed vigor in spring; and, cherished by the genial warmth of the sun, put forth with increased luxuriance. Ammonia, and other fertilizing substances, are also contained in snow, even when taken from the glaciers of Mont Blanc, which likewise cherish vegetation by their invigorating influence. Among the subordinate uses of snow, may be reckoned the advantage of having good roads in winter, for conveying produce to market, drawing wood, manure, &c., benefits by no means small, which every Northern farmer well knows how to appreciate."

"I thank you, cousin," said Frank, "and I hope to repay you when you visit me in Georgia." B

FOREIGN AGRICULTURAL NEWS.

By the arrival of the steamer Cambria, we are in receipt of our foreign journals, up to December 4th.

MARKETS.—Ashes were dull. *Cotton* had been taken hold of extensively by speculators, and in consequence of it had advanced ¼d per lb. The manufacturers were uniting to put down the price, and will doubtless succeed by working short time, as the prices of cotton yarns and goods do not justify this advance. Moreover, from the best calculations which can be made, there will be a stock of cotton on hand in Liverpool, on the 1st of November next, of 413,100 bales, which is considered amply sufficient to put down speculation, as the crop in the United States for '47, may prove a large one. Cotton has now advanced altogether, 1¼d. (3 cts.) per lb. from the lowest point. This is a great rise, and quite as much as could be expected under the circumstances of the case. Stock on hand, in Liverpool, on the 1st December, 504,000 bales, against 914,000, same period last year. *Guano*, in active demand. *Hemp*, firm at an advance. Flour, an advance of 1s. per bbl. *Indian Corn* has fallen 2s. to 3s. per quarter. The sales in both continue large. *Naval Stores*, flat. *Provisions* of all kinds, steady. Lard, Rice, and Tallow, at a decline. *Sugar*, an advance. *Tobacco*, no change. *Wool*, the same.

Money continues abundant at 3 per cent. The very best paper is done at 2 per cent.

The Wheat Harvest in the Polish Provinces, and New Russia, which supply Odessa on the Black Sea, and the ports of the Sea of Azof, proves very abundant the past season, and large supplies for England and France may be expected from these quarters. The rice and maize harvests, also, have been good.

East India Cotton.—Renewed exertions are being made to better clean and fit this article for the European market.

Hops.—A large quantity of American hops, recently arrived in London, and excited a good deal of attention on the part of the trade. Since the reduction of duties on this article, considerable exports will doubtless be made from the United States.

The Potato Disease.—Baron Liebig imagines the essence of the potato disease to consist in the conversion of the albumen, a usual constituent of healthy potatoes, into caseine, a principle which, by its great instability of composition, is supposed to cause the potato to putrify rapidly. The Rev. F. Dauvenoy states, in the Taunton Courier, that he has discovered by the microscope a minute insect, crystal-like, and transparent, resembling a spider, in the midst of potato mildew, evidently feeding on it, and making its nest among the thread-beds of fungi. From observations made, there must be more than 100 in a single tuber.

How to Decoy and Destroy Ants in Dwelling-houses.—When practicable, place as near the end or passage on a level, a basin or bowl filled with dry mould; then put a bone or bones of fresh meat in the bottom (such as are discarded from the dining-room). You will soon find your tormentors congregate thousands strong; for I assure you they are first-rate bone-polishers. Forty years ago, when a boy, whenever I wanted a particular bone of a duck or goose polished, I always found the ant-hill the best manufactory. Have in readiness a strong solution of boiling salt and water, and when you perceive your enemies begin to retreat, cover them with it. Salt and water cold will destroy them poured into their haunts; but the better way is to decoy them out of their strongholds. It will be good policy to wash out the basin or bowl, and fill it with fresh mould previous to a second decoy, as it will be perceived salt is not a favorite.— *Gardener's Chronicle.*

Diseases of Poultry.—Much unintentional cruelty is inflicted by hands the most delicate, and great suffering endured by all our domestic animals, owing to deficiency of knowledge possessed by man. Books vary greatly; are too often manufactured, and errors are copied from one into another without any regard to experience. This arises from the fact of few men in the medical profession, in this country, having deemed it worth their while to make this branch of comparative anatomy a study, or to send to the journals the results of their physiological or pathological observations or experience, confirmed by the wonderful improvements of late years in modern science. We must, however, make an exception when alluding to those on the Continent, who have done so much as Réaumur, Fleurens in his surprising experiments on Phthisis in Man and Fowls, Beckstein and so many others—not forgetting the studies of Sir C. Bell, or recently, Mr. Todd, of London, in his beautiful and elaborate papers on "The Egg" (*Lancet*, 4th April, 1846). Clater also has, in his book "On Cattle," published a chapter on this head, worth all that has ever been written, except that he does not give the reason for the effect produced by a medicine, which would afford great assistance to other inquirers. If a few in the medical profession would keep poultry for the purpose, as well as for use and profit, and send from time to time to the journals the numberless curious observations which must fall under their notice, as incidents for comparative anatomy, not only would all old errors be soon corrected, much animal suffering be spared, but many useful and valuable data be collected applicable to the treatment of diseases incident to the human frame, and the sufferings of humanity considerably lessened.—*Ibid.*

Production and Consumption of Eggs in France.—The following statement by M. Legrand, a member of the French Statistical Society, on the production and consumption of eggs in France, may not prove uninteresting, as it tends considerably to aid me in my endeavors to prove that, however insignificant in themselves individual eggs may appear, in the aggregate they are of no small importance:—"In 1813, the number of eggs exported from France was 1,754,140. Between 1816 and 1822, the number exported rose rapidly from 8,733,000 to 55,717,500; and in 1834, the number had increased to 90,441,600. In 1835, 76,190,120 were exported for England; 60,800 for Belgium; 49,696 for the United States; 42,960 for Switzerland; 34,800 for Spain; and 306,304 to other parts of the world. The total amount of the exportations for that year was 3,829,284 francs. The consumption in Paris is calculated at 175¼ eggs per head, or 101,012,400. The consumption in other parts of France may be reckoned at double this rate, as in many parts of the country, dishes composed of eggs and milk, are the principal items in all the meals. The consumption of eggs for the whole kingdom including the capital, is estimated at 7,231,160,000; add to this number those exported, and those necessary for reproduction, and it will result that 7,380,925,000 eggs were laid in France during the year 1835.—*Richardson on Domestic Fowls.*

The Ostrich or Cochin-China Fowl.—This variety of fowl so far surpasses both in size and power all that we have ever yet seen in the shape of poultry, as to lead many who have been permitted to inspect them, to refer them to the family of bustards. They are, however, genuine poultry. Their general color is a rich, brown deep-bay; on the breast is a marking of a blackish color, and of the shape of a horseshoe; the comb is of a medium size, serrated, but not deeply so, and the wattles are double. Besides their gigantic size, however, these fowl possess other distinctive characteristics, among which I may enumerate the following:—the disposition of the feathers on the back of the cock's neck is *reversed*, these being turned upwards; the wing is jointed, so that the posterior half can, at pleasure, be doubled up, and brought forward between the anterior half of the body —*Ibid.*

Editor's Table.

A Second Volume on the Trees of America.—We are authorized to announce from Mr. Browne, that the success of his new work on trees, has been sufficient to warrant the preparation of a second volume of the size and character of the first, about one-half of the engravings of which are already executed. This work, when completed, will undoubtedly contain more truly practical and useful information on American trees than any other work extant.

Florida Olives.—The editor of the St. Augustine News has been presented with some fine fresh olives, the growth of that place. The soil and climate of that State are said to be well adapted to the cultivation of this fruit. The olive oil which is imported into the United States, is valued at $50,000 annually.

Cultivation of the Almond.—One of the most important advantages of cultivating this excellent fruit, seems to be, that it requires neither care of cultivation, nor excellence of soil, as it appears to prefer warm, dry soils like those of both shores of the Mediterranean, and would doubtless succeed in many parts of Florida, and the islands of Georgia. Almond trees are easily propagated, either by planting slips, or by budding on their own, or stocks of the plum. Who among our Southern readers will give this subject a fair trial?

Canals in the Caucasus.—The Russian government has already commenced the restoration of the irrigation canals, which intersect all the southeastern portion of the Transcaucasian country. Most of these canals were constructed by the ancient Kings of Armenia, and others by the shahs of Persia and the sirdars of Erivan; the origin of some of them is even traced up to the primeval monarchs of the ancient East. For instance, one bears the name of Schamiran, because popular tradition assigns its origin to Semiramis. In the present district of Erivan, alone, there are 148 main canals, which feed 384 secondary channels. Very great numbers of these, however, are now but ruins which merely serve to testify their former immense development, as well as what was once the population and fertility of the vast steppes they intersect, and which are now naught but barren plains. Successive political catastrophes, wars, invasions, and the oppressions practised on the people by different governments, have annihilated these sources of riches. The Russian government intends to restore a certain number of these canals, for which purpose, it is said, Prince Woronzoff displays great activity.

Artificial Icing.—An invention for generating ice by artificial means has just been discovered by Messrs. Lings and Keith, the patentees of the ice safe, &c. The ice is produced by means of a powder composed of salts, ammonia, and various chemical mixtures. This powder is placed in a simple apparatus, something in the shape of a churn, but smaller in size, and being mixed with water, is kept in motion by a rotary process around the bottle of wine to be cooled. In a few minutes, and at a very trifling expense, the wine is sufficiently cooled, and if kept a few minutes longer in the vessel would be actually frozen. A bottle of water may be frozen to a solid by this prolonged motion; but of course it is not requisite to reduce the temperature of wine below a certain degree of coolness. The simplicity of the contrivance is one of the principal advantages of it, and the ease with which the effect is produced is equally beneficial. The most inexperienced in chemical experiments can produce the required results, which, in fact, require nothing but the labor of the hand but a few minutes.

Sickness Caused by digging Diseased Potatoes.—Last week, one of our subscribers, and his two sons, proceeded to Chappaquiddic, for the purpose of digging potatoes. He had not long been engaged when his eldest son became quite sick, and vomited freely; he was immediately taken to the nearest dwelling, and properly cared for. Shortly after returning to the field, the younger son was seized in a similar manner, and the father began to feel quite unwell; indeed, such was the smell arising from the really putrid potatoes, that he was obliged to suspend operations and return to town. The elder son has since remained quite sick, and is now under the care of a physician.—*Vineyard Gazette.*

Santa Anna's Flocks—*A Supply for the Army.*—The writer in Blackwood's September number on Mexico, says a large portion of the country between Vera Cruz and the city of Mexico, belongs to the well-known Gen. Santa Anna. The soil of his vast estate is fertile, but left to its natural fertility—the General being a shepherd, and said to have from 40 to 50,000 head of cattle in his pastures. Should the government quarter the army on him for a while, would it not greatly expedite their efforts to "conquer a peace?"

The Horse Bean.—Of the horse bean, there is considerable variety; two of them have been selected by us for cultivation, believing them the best adapted for the climate, and quite sufficient of the kind. They are the Early Long Pod and Broad Windsor. Both succeed with the same treatment, but the first named is the most certain bearer of the two. In England, where they are extensively cultivated, they do much better than in this country, preferring its damp, cool atmosphere, to our frequently dry and hot one: to counteract which it is desirable to plant as early in the spring, as the ground will admit of being worked, in the latitude of Philadelphia, the latter part of February, or beginning of March, if possible; they then come into flower before the weather becomes hot, otherwise the blossoms drop and set no fruit.

Those who are particularly fond of this bean, can accelerate the crop, by setting a frame at the close of winter, under the lee of a board fence, or other protected situation, exposed to the sun, which cover with glass, and in severe weather with matting or straw, so as effectually to exclude the frost. Herein plant the beans, one seed to the square inch, and let them remain, until the arrival of milder weather, when they should be transplanted to the position in the garden, which it is intended they shall occupy. In transplanting them, care should be taken not to injure the roots, to guard against which, use a trowel to ease them up, and suffer as much earth as will, to adhere. During the time they remain in the frame, the sash should be raised when the weather is mild, to admit the air, or gradually harden them, preparatory to full exposure when transplanted.—*Rural Register.*

Large Tree in Mexico.—His excellency Don Fernando Lorenza, formerly Archbishop of Mexico, affirms in his Annotations, printed in that city in 1770, that, in company with the Archbishop of Guatemala, and other persons, he visited a celebrated cypress, (*Cupressus disticha?*) known by the Indian name of *ahcuhcutl*, which he found to be so very large, that in a cavity originally caused by a bolt of lightning, he made 100 boys enter at a time.

Consumption of Salt on the Globe.—It has been estimated that the annual consumption of salt on the entire globe is 80 to 100,000,000 quintals, from 25 to 30,000,000 of which are consumed in Europe, and 5 or 6,000,000 in the United States.

Curious Mode of Splitting Rocks.—According to the calculations of philosophers, a spherule, or little globe of water, only one inch in diameter, expands in freezing, with a force superior to the resistance of 13½ tons weight. This power, it is said, has been applied with success in Sweden, to the splitting of rocks. Why cannot this mode be adopted in Canada and the northern parts of the U. S., in winter, filling holes drilled in the rocks with water and allowing it to freeze?

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We seldom open the Bible without feeling grateful for the early recollections which steal over us by the magic of memory, and in an instant, transport us back to the home of our childhood; and the hour, brief and bright, when our first thoughts were associated with that holy book, vividly shines through the dim vista of succeeding years. No weary task is brought to mind; no irksome repetition ill understood; no soiled page, blotted with affliction's tears; but, instead of these, fond memories on which we love to dwell, as the kind parental look, and the gentle tone of commendation, that needed no reward save the privilege of reading this Book of Books. Well do we remember with what pleasure we pored upon the large print of our old Family Bible, in those first days of life, most literally spelling over those simple, yet beautiful and sublime truths, while the joyous sunbeams not unfrequently illuminated the sacred page. How applicable the gilding for such a book!

In the copy before us the paper is firm and good, the letter-press large and clear, the embellishments striking, beautiful, and executed with taste, and the binding substantial and rich. It is by far the most elegant edition that has ever been issued from the American press, and is well adapted for a *Sacred, Birth-day, Marriage, Christmas, or New-Year's Gift*,—not an *Ephemeral*, merely to be looked at for a day, and laid aside for ever, but a *Perennial*, with a character and endurance, which exalt it to a higher worth, that will serve as an *Heir-loom* for generations unborn!

The wise, or fastidious, may smile at us, perhaps, for acknowledging that we indulge in a feeling akin to awe, whenever we gaze upon an ancient book of any kind; but where can a harvest of richer associations be gathered, or a theme better fitted for meditation, than from the sight of an old Family Bible? We were never more strongly impressed with this, than a few months since, on visiting the old mansion at Flushing, built by the venerable John Bowne, in 1661. Here we saw a precious relic, printed in black letter, in 1620, bearing the autograph of its early possessor, which has remained under the same roof, passed, as an heir-loom, through the hands of his descendants, and from its careful preservation, it will probably so continue for a century to come.

THE RURAL REGISTER AND ALMANAC, for 1847, pp. 150. 12mo. Philadelphia: Lea & Blanchard. Price 25 cents. The editor of this little work says that "He has endeavored to collect together such items as interest every country resident, and has availed himself of the publications of various European authorities." In addition to the calendar and advertising pages, it is filled with a good variety of well-digested matter, and illustrated by numerous engravings, for a sample of which the reader is referred to page 24 of the present number.

SACRED POEMS. By N. P. Willis. New York: Clark & Austin, 205 Broadway. pp. 126, 32mo. Price 37½ cents. This neat little volume is very appropriate for a small Christmas or New-Year's gift, and needs no further commendation.

THE POEMS OF ALFRED B. STREET, complete edition. New York: Clark & Austin, 205 Broadway. pp. 320, 8 vo. Price $1.50. The author of this beautiful work, who is well known in our Periodical Literature, passed the early part of his life in a wild and picturesque region in the southwestern part of New York, his native place. Apart from the busy haunts of mankind, his eye was caught by the strongly-marked and beautiful scenes by which he was surrounded—and to the first impressions thus made, may be attributed the fact, that the subjects for his poems relate so much to Nature and so little to man. Instead, therefore, of aiming to depict the heart, he has endeavored to sketch the features of that with which he was the most familiar. It is with these views, it would seem, that this volume has been submitted to the public. It is well executed, handsomely embellished, and cannot fail to be an acceptable present.

A MEMOIR ON MAIZE, OR INDIAN CORN; compiled under the direction of the American Institute. By D. J. Browne. To which is appended Barlow's Poem on Hasty-Pudding. New York: W. H. Graham, Tribune Buildings. pp. 56, 12mo. Price, in pamphlet form, 12½ cents—in muslin, 25 cents. This little Memoir, which appears to be the result of much labor and research, treats of the geography, history, and mythology of maize, its chemical constituents as far as known, with a concise description of the principal varieties cultivated in the United States, and practical directions for kiln-drying, grinding, cooking, &c. Independent of the poem, Hasty-Pudding, with its millions of admirers, the book contains in itself more general, useful, and practical information on the subject of Indian Corn, than can be found in any one work in any language.

EXPERIMENTAL RESEARCHES ON THE FOOD OF ANIMALS, and the Fattening of Cattle; with Remarks on the Food of Man. Based upon Experiments undertaken by Order of the British government. By Robert Dundas Thompson, M. D. From the last London Edition. New York: D. Appleton & Co., 200 Broadway. pp. 172, 12mo. Price 50 cents, in muslin. It appears from the author's preface, that this work is based on an extensive series of experiments which were made at the instance of the British Government. The original object of that inquiry was to determine the relative influence of barley and malt in feeding cattle; but as the opportunity seemed a favorable one for investigating some scientific problem of great importance to physiology, and of extreme value in the physical management of man and animals, advantage was taken of it, to extend the experiments so as to include these objects; and in so doing, he has brought to light many facts and circumstances of the highest interest. These experiments seem to demonstrate that the fat of animals cannot be produced from the oil of the food, but must be evolved from the calorifient, or heat-forming portion of the aliment, essentially assisted by its nitrogenous materials. By following out this principle, Dr. Thompson thinks he has been enabled to detect one important relation subsisting between the nutritive and heat-forming portion of the food, upon the determination of which, for the various conditions of man and animals, he considers the laws of animal dieting depend.

As this work is full of information that will interest and prove useful to all practical and scientific agriculturists, by enlarging their field of physiological and chemical knowledge, we cordially recommend it to the attention of this most important class of the community.

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REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 23, 1846.

ASHES, Pots,	per 100 lbs.	$4 62	to	$4 68
Pearls,	do.	5 50	"	5 62
BALE ROPE,	lb.	5	"	7
BARK, Quercitron,	ton,	26 00	"	27 00
BEANS, White,	bush.	1 12	"	1 25
BEESWAX, Am. Yellow,	lb.	26	"	30
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	40	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	16	"	25
Shipping,	do.	9	"	13
CANDLES, Mould, Tallow,	do.	9	"	11
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2000 lbs.	6 00	"	7 00
CORDAGE, American,	lb.	11	"	12
COTTON,	do.	9	"	13
COTTON BAGGING, Amer. hemp,	yard,	11	"	14
FEATHERS,	lb.	25	"	34
FLAX, American,	do.	7	"	8
FLOUR, Northern and Western,	bbl.	5 25	"	5 56
Fancy,	do.	6 00	"	6 50
Southern,	do.	5 25	"	5 62
Richmond City Mills,	do.	6 25	"	7 00
Buckwheat,	do.	4 00	"	4 25
Rye,	do.	3 75	"	4 00
GRAIN—Wheat, Western,	bush.	1 05	"	1 20
Southern	do.	1 00	"	1 10
Rye,	do.	84	"	85
Corn, Northern,	do.	78	"	80
Southern,	do.	73	"	75
Barley,	do.	61	"	65
Oats, Northern,	do.	38	"	40
Southern,	do.	33	"	35
GUANO,	do.	2 00	"	3 00
HAY, in bales,	100 lbs	56	"	62
HEMP, Russia, clean,	ton.	220 00	"	225 00
American, water-rotted,	do.	105 00	"	185 00
American, dew-rotted,	do.	75 00	"	125 00
HIDES, Dry Southern,	do.	7	"	8½
HOPS,	lb.	9	"	12
HORNS,	100.	1 00	"	7 00
LEAD, pig,	do.	4 50	"	4 56
Sheet and bar,	lb.	4½	"	5½
MEAL, Corn,	bbl.	3 75	"	4 00
Corn,	hhd.	17 75	"	18 00
MOLASSES, New Orleans,	gal.	30	"	34
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	2 00	"	2 25
Pitch,	do	1 00	"	1 06
Rosin,	do.	55	"	65
Turpentine,	do.	3 50	"	3 56
Spirits Turpentine, Southern,	gal.	38	"	41
OIL, Linseed, American,	do.	60	"	63
Castor,	do.	55	"	70
Lard,	do.	65	"	70
OIL CAKE,	100 lbs.	1 25	"	1 50
PEAS, Field,	bush.	1 25	"	1 50
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	7 00	"	9 00
Prime,	do.	5 75	"	6 75
Smoked,	lb.	6	"	9
Rounds, in pickle,	do.	4	"	6
Pork, Mess,	bbl.	9 50	"	12 00
Prime,	do.	7 88	"	9 25
Lard,	lb.	7	"	8
Bacon sides, Smoked,	do.	5	"	6
In pickle,	do.	4	"	5
Hams, Smoked,	do.	6	"	10
Pickled,	do.	5	"	8
Shoulders, Smoked,	do.	5	"	6
Pickled,	do.	4½	"	5
RICE,	100 lbs.	3 37	"	4 12
SALT,	sack,	1 25	"	1 32
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	6	"	9
Timothy,	7 bush.	11 00	"	20 00
Flax, clean,	do.	10 25	"	11 25
rough,	do.	9 00	"	9 25
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	3
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	7	"	9
SUMAC, American,	ton,	35 00	"	37 50
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2	"	7
WHISKEY, American,	gal.	24	"	25
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	25	"	30
Half blood	do.	20	"	25
Common do		18	"	20

REMARKS.—*Ashes* have fallen a trifle. *Cotton* has advanced fully half a cent per lb. *Grain, Hay, Molasses, and Provisions*, also, there is a slight advance. In other articles we find nothing particularly worthy of notice.

Crops.—The sugar crop comes in lighter than was anticipated. The estimates in New Orleans, of the present crop, vary from 125,000 to 150,000 hhds.

TO CORRESPONDENTS.—Communications have been received from Cato, Old Lady, E. S., James Rough, M., Edmund Ruffin, J. Murdoch, John Parker, Dr. Charles T. Jackson, L. F. Allen, M. W. Philips, John P. Norton, Dr. James P. Peacocke, Robert Corwin, R. Abbey, and An Old Subscriber.

Eutawah is informed that her excellent article on Apple-Butter is laid by for our September No.

Cato's former article on the History of Merino Sheep will occupy more room in our columns than we are able to spare for the present.

Will Messrs. Hovey & Co. inform us whether their excellent nurseries in Cambridge have ever suffered from the gases of the brick-kilns in that vicinity?

Will John Browne, of Long Island, in Lake Winnipisiogee, furnish us with an account of his mode of cultivating Indian corn? Can he send us some of the corn, bearing his name, for seed?

ACKNOWLEDGMENTS.—Report to the New Orleans Chamber of Commerce, in Reply to the Questions Propounded by the Honorable Secretary of the Treasury, on the Subject of the Tariff and Warehouse System. Also the Transactions of the Agricultural Society and Mechanics' Institute of Newcastle County, Del., at the 11th Annual Meeting, held at Wilmington, on the 16th and 17th of September, 1846; the Address delivered at the opening of the 19th Annual Fair of the American Institute of the city of New York, by the Hon. Mahlon Dickerson, President of the Institute, and the Horticultural Report of the said Fair by Thomas Bridgeman; likewise an Address on Agriculture delivered before the Worcester County Agricultural Society, by John S. Skinner, Esq., in September, 1846, and a pamphlet on the Analysis of the Oat, by Professor John P. Norton.

HORSES.—We have received a letter from a breeder in Western New York, saying that he has two splendid pairs of horses for sale; one brown, six years old, only sixteen hands high, bob tails, and can do 13 miles an hour together, and either do a mile in 3 minutes and 40 seconds; price $600. The other pair bay, six years old, only sixteen hands high, without white, bob tails, can do 14 miles an hour together; and either can trot alone a mile in 3 minutes 30 seconds; price $800. They will be delivered here; but will only be brought on a positive order; the purchaser to have the privilege of returning the horses, and receiving back the price if they be not what they are represented.

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